

COMMUNITY PLANNING ASSOCIATION OF CANADA

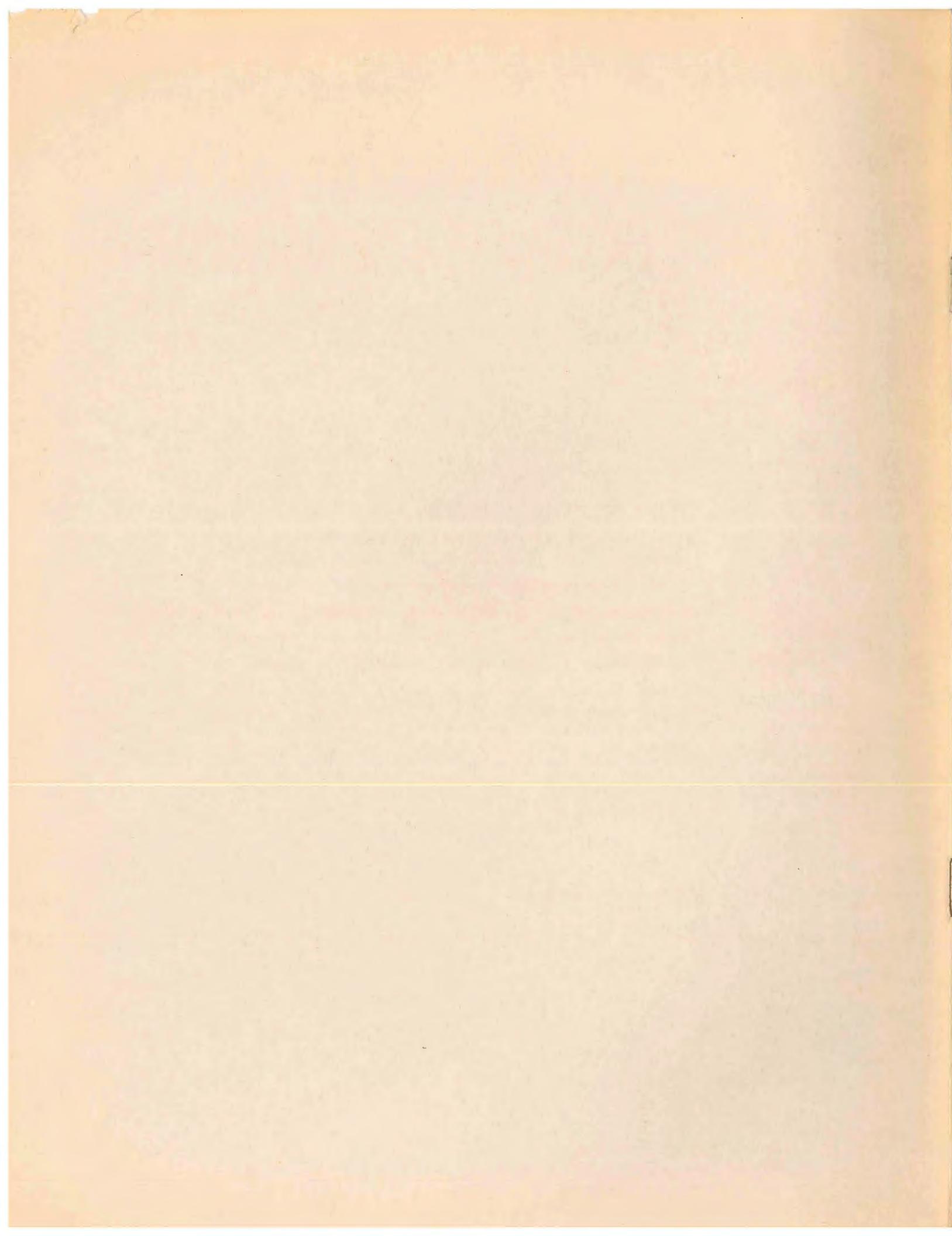
# COMMUNITY PLANNING REVIEW



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# REVUE CANADIENNE D'URBANISME

L'ASSOCIATION CANADIENNE D'URBANISME



# **COMMUNITY PLANNING REVIEW**

# **REVUE CANADIENNE D'URBANISME**

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**C O M M U N I T Y   P L A N N I N G   A S S O C I A T I O N   O F   C A N A D A**  
**L ' A S S O C I A T I O N   C A N A D I E N N E   D ' U R B A N I S M E**

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As producer of more than half the world's newsprint, Canada rightly views her capital to include a pile of pulpwood.

*Photo Malak, Ottawa*

*Le Canada fournit plus de la moitié de la production mondiale de papier-journal. Il convient certes qu'une photo de la capitale nous montre un tas de bois à pâte.*

# FOREWORD

THIS is the first issue of a new bilingual quarterly published by the Community Planning Association of Canada. Its pages will contain illustrated articles by recognized authorities, of the kind that appeared from time to time in its predecessors *Layout for Living* and *Urbanisme*. The *Review* is edited by the staff of the Association under the general direction of its Council, and with the guidance of a distinguished group of advisers whose names appear on another page.

There are reasons, in Canada as elsewhere, for giving fuller scope in this mid-twentieth century to discussion of the purposes and methods of community planning. The modes of city-building seem today more rapid than sensible. The complexities of today's urban growth appear to overwhelm the habitual machinery of urban government. The efforts at town planning in the first half of the century plainly have not produced the results hoped for.

It may be fair to say that much community planning has been too superficial, too partial and unreal to succeed. The sociologist and economist usually confined themselves to describing the curious behaviour of urban institutions and the private land market, as a tourist might describe an oriental bazaar, without contemplating any basic change. At the same time an accomplished designer might quietly make drawings of a non-existent place, in greater or less innocence of the economic and social forces giving shape to his own home town. Elsewhere, an administrator might try to translate the pretty drawings into a permanent legal sieve, through which the flow of city-building would be sifted nearer to the designer's taste. The chronicler, the delineator and the regulator of urban patterns too rarely met one another.

Our legislation and practices for this kind of planning were chiefly conceived in the first decade of this century; a feature of these middle decades is the enormous growth in the proportion of city-building being undertaken in the name of the whole public. The creation of large new parts of every city by public action may be regretted for rendering obsolete the old planning law and organization—and for much else besides. But the positive public action to build housing, schools, recreational and other facilities, seems to be what millions of people want. The business of our Association then is to examine how best those wants may be realized—to help find planning methods proper to a mixed economy, rather than to deplore the fact that it is mixed.

# AVANT-PROPOS

Voici la première livraison de la nouvelle revue trimestrielle bilingue que publie l'Association canadienne d'urbanisme. On y trouvera des articles illustrés dus à la plume d'autorités reconnues, des articles du genre de ceux qui ont paru dans les publications qui l'ont précédée *Urbanisme* et *Layout for Living*. Le personnel de l'Association, sous la direction générale du Conseil d'administration, est chargé de la publication de la *Revue*. Un groupe de conseillers de rédaction, dont les noms paraissent dans une autre page, aidera à orienter la revue.

Au début de cette moitié de siècle, il ne manque pas de raisons, au Canada et ailleurs, de donner plus d'importance à l'étude des buts et méthodes relatifs à l'urbanisme. Il semble qu'aujourd'hui la façon dont se développent les villes soit plus rapide qu'intelligente. La façon compliquée dont s'effectue aujourd'hui l'expansion urbaine paraît dépasser la capacité administrative ordinaire des municipalités. Les efforts tentés en matière d'urbanisme durant la première moitié du siècle n'ont évidemment pas produit les résultats espérés.

Il est sans doute juste d'affirmer que, dans bien des cas, l'urbanisme a été infructueux parce qu'il s'est pratiqué de façon trop superficielle, sans d'ensemble et sans tenir compte des réalités.

C'est surtout au début du siècle que nos lois et coutumes à l'égard d'un urbanisme se sont élaborées; à noter que durant les décennies intermédiaires, on a vu un accroissement extraordinaire des aménagements urbains entrepris au nom du public. On peut regretter qu'on ait ainsi créé, dans chaque ville, de vastes quartiers nouveaux, rendant de la sorte désuètes les coutumes et procédés anciens en matière d'urbanisme. Il semble pourtant que des millions de gens souhaitent une action positive de la part des autorités en matière de construction de maisons, d'écoles, et d'aménagement de moyens de récréation et autres. Le rôle de notre Association consiste à étudier la meilleure façon de réaliser de tels objectifs, d'aider à trouver les méthodes d'urbanisme qui conviennent à une économie mixte, plutôt qu'à déplorer une telle mixture.

L'urbanisme ainsi conçu permet tout d'abord de tenir compte des aspirations des collectivités et, ensuite seulement, de dresser des plans susceptibles d'y faire droit. Avant de bien s'arrêter à un programme municipal, il importe de parfaitement tenir compte des buts économiques et sociaux. On n'a guère considéré, dans la formation de la plupart des paysagistes ou dessinateurs, pas plus d'ailleurs que dans la rédaction de la plupart de nos lois relatives à l'urbanisme, des effets que peuvent

Planning as here conceived means discovering first of all how the community wants to live and move, and only thereafter delineating the physical outlines fit and acceptable for those purposes. There must be clear economic and social objectives before there can be meaningful civic designs. The effects upon familiar social institutions and land-value patterns that will ensue from new public policies are not the stuff that entered into the training of most designers, nor into the drafting of most of our planning law. Additional specialists must be enlisted and given hearings, and new statutory tools must be conceived, if there is to be great advance in our ability to build cities well.

This enlargement of the planning team and evolution of planning method cannot be accomplished without thorough debate; in Canada, these pages are offered as a first forum for all who can contribute. We hope that from these pages will emerge clearer images of the citizens' role and specialists' roles, and of the public policies and technical practices that lead to more reasonable and beautiful surroundings.

We believe a good beginning is made by the accomplished authors of this issue: an architect, a sociologist, public servants, an economist, and the illustrators.

**I**N A period of international tension like the present, the pre-eminence of public authorities in city-building becomes greater than before; and immediate needs tend to eclipse more fundamental objectives. Phrases like 'defence emergency' are likely to herald ill-conceived and abortive projects. Precise and forceful declarations of the main purposes of our society are now more necessary than ever, in city-building as in all matters.

Balanced community development may now assume more than mere convenience value—it may have survival value. Population growth and vigorous industrial expansion are certain to occur in Canada, whatever may be the immediate political goals. The lesson fresh in our memories is that defence construction will be a very long time in use; the struggle now giving rise to that kind of construction seems likely to last (in one form or another) for at least a generation. This is no momentary emergency; all our resources and fabrications will be strained to capacity for years to come. They can only serve us to the full if their use, and their relation one to another, is planned with all the skill and knowledge we can muster.

So to plan will doubly strengthen our position: we may thus avoid waste of critical human energies and raw materials; and we may by sound planning proclaim the capacity of our politico-social organizations to deal with our spatial needs efficiently and in good order. We shall preserve principles of political organization against challenge only insofar as they work. This *Review* is dedicated to steady advance in a particularly vulnerable sector of Canadian life: the quality of its man-made physical setting.

avoir les nouveaux programmes des autorités publiques sur les institutions sociales ordinaires et sur les procédures relatives à l'urbanisme. Si nous voulons améliorer de façon appréciable nos moyens en matière d'urbanisme, d'autres spécialistes devront être engagés.

Un tel accroissement du nombre des spécialistes et un tel changement dans les méthodes relatives à l'urbanisme doivent s'accompagner d'une étude minutieuse. Au Canada, tous les intéressés auront comme tribune les pages de notre revue. Nous espérons que, de ces pages, le rôle des citoyens et des spécialistes, apparaîtra sous un aspect plus vivant, de même que l'apport des programmes publics et des méthodes techniques susceptibles de rendre le milieu plus convenable, plus joli.

Les écrivains compétents qui collaborent à notre première livraison nous fournissent, croyons-nous, un bon début. Ce sont un architecte, un sociologue, des fonctionnaires, un économiste et des illustrateurs.

**D**ANS une période de tension internationale comme celle que nous vivons, le rôle des autorités publiques prend plus d'importance que les besoins immédiats tendent à éclipser des objectifs fondamentaux. Des expressions comme "urgence de la défense" peuvent vraisemblablement laisser présager que des entreprises seront mal conçues et vouées à l'échec. Il importe plus que jamais, aussi bien en matière d'aménagement de villes qu'en toute autre, d'indiquer, dès maintenant, bien clairement et sans détour, quels sont nos buts principaux.

Une sage expansion de nos villes peut comporter pour plus tard plus qu'une simple valeur d'agrément: elle peut être une condition de survie. Le Canada connaîtra sûrement un accroissement de population et une vigoureuse expansion industrielle, quels que soient les objectifs politiques immédiats. N'oublions pas que la construction pour fins de défense ne s'arrêtera pas de sitôt et que le bouleversement qui s'ensuit peut bien, d'une façon ou d'une autre, nous affecter pendant au moins une génération. Pendant des années, il faudra ne rien négliger de nos ressources et de nos moyens de production, dont nous ne tirerons pleinement avantage que si, faisant usage de tous les talents et de toutes les connaissances dont nous disposons, nous savons en servir avec prévoyance et sagesse.

Un tel programme tracé d'avance aura un double avantage: éviter le gaspillage de nos énergies si nécessaires et de nos matières premières; démontrer, grâce à un programme sagement conçu, que nos organismes politico-sociaux peuvent trouver, de façon efficace et bien ordonnée, la solution à nos problèmes d'accommodation. Nous appuierons les principes dont s'inspirent les organismes politiques dans la mesure seulement où ces principes se révèlent utiles. Notre *Revue* vise à assurer le progrès d'un secteur de la vie canadienne particulièrement vulnérable: la qualité du milieu physique fait de la main de l'homme.

*Kent Barker est professeur d'architecture de l'Université de Toronto, et urbaniste consultant de la Société centrale d'hypothèques et de logement. Il indique dans son article les mesures qui ont amené le gouvernement fédéral à édifier une nouvelle ville à l'endroit où, pendant la guerre, se trouvait une fabrique de matériel de guerre, à vingt milles à l'est de Toronto, sur les bords du lac Ontario. L'auteur souligne les aspects qui ont amené à en concevoir le plan d'ensemble et à quel point en est sa réalisation.*

## AJAX : PLANNING A NEW TOWN IN ONTARIO

by Kent Barker\*

AJAX is situated on the shore of Lake Ontario, some twenty-five miles east of Toronto. Before the war, it was open farmland, dotted with a few houses and barns. The site was selected in 1941 for the location of an important war industry. The Canadian Government, acting through Defence Industries Limited, purchased an area of almost 3,000 acres, and constructed a huge shell-filling plant.

In addition to the operational buildings and magazines, the project included its own pumping station, sewage disposal system, steam plant, and many miles of road and railway. Six hundred small houses, plus a number of dormitory buildings, were built to accommodate the thousands of war workers needed to operate the plant. The community was provided with its own post office, banks, hospital, recreational facilities, police and fire departments.

The project was named "Ajax" to commemorate the recent naval action off Montevideo which had cost the Nazis the loss of their pocket battleship *Graf Spee*. During the war, the plant turned out immense quantities of ammunition comprising a very important element in Canada's war production.

After the end of hostilities Ajax was occupied, in part, by the University of Toronto. Student enrolment had risen almost overnight to astronomical figures, creating a sudden demand for space and facilities which could not possibly be absorbed by existing accommodation in Toronto. It was a stroke of good fortune that Ajax was available to meet this emergency. Plant buildings were quickly adapted to provide lecture halls, laboratories and drafting rooms. War workers moved out and student veterans moved in. At its peak, the Ajax Division had an enrolment of over 3,300 students of the Faculty

of Applied Science and Engineering. The great majority were provided with living accommodation inside the project.

The buildings and equipment used by the University of Toronto were under lease from the War Assets Corporation. The residual industrial buildings remained under direct control of War Assets Corporation, while the 600 single family Wartime Houses were controlled and administered by Wartime Housing Limited until it was succeeded by Central Mortgage and Housing Corporation early in 1947. (All three Corporations are creatures of the national government.)

During the period of occupancy by the University of Toronto the ultimate disposition of the buildings and services in the industrial area hung more or less in the balance. War Assets Corporation dismantled several of the vacant industrial buildings and removed considerable railway trackage. When the University of Toronto decided to vacate early in 1948 there was a continuing demand for the 600 Wartime Houses by veterans who were unable to find housing closer to their employment in Toronto and elsewhere. Thus a situation arose, in which the industrial buildings became a "ghost area" and the long term future of the 600 dwellings was surrounded by uncertainty. The Ajax "village" faced the imminent prospect of becoming an isolated community of small houses, quite unrelated to its region.

As successors to Wartime Housing Limited, Central Mortgage and Housing Corporation became concerned with this problem. Not only was the welfare of its tenants endangered, but the practical aspects of future management presented unusual difficulties. In order to provide essential services to the 600 houses, it would be necessary to maintain several miles of pipe lines, a sewage disposal plant, and a water pumping station several times larger than actually required. When the full implications of this problem were brought to light it became apparent that much of the existing plant, representing an investment of many millions, could be readily adapted to peacetime use.

\* The author would like to take this opportunity of expressing his appreciation of the work of his associates and assistants, who have participated in the planning of Ajax over the past two years:

Ants Elken, architect; Bob Briggs, Frank Burcher, Hugh Ellis, Cliff Wilson, Fred Wallis and Josef Kamenicek, students.

A great deal of credit is due to Mr. George Finley—now Manager of the Ajax Development Project, at that time District Rentals Officer of the Corporation. It was he who first appreciated the situation and brought forward the idea of developing a planned community on the site of the old war plant.

In 1948 the University gave notice of its intention to withdraw the following May. It was then decided to place full control of Ajax in the hands of the Housing Corporation. Its status became that of a "Federal Island" within the boundaries of a rural township. Certain arrangements were already in effect, with respect to the sharing of school costs and social services. These had been worked out on a mutually satisfactory basis after the original agreements with Wartime Housing Limited had proven inadequate. Ordinary municipal services were on an operating basis and the community was served by the Ontario Provincial Police.

In accepting responsibility for the future of Ajax, Central Mortgage and Housing Corporation realized that here lay an unusual opportunity for the practical application of modern planning principles. The strategic location of Ajax, with its road and rail connections and its existing services and buildings, presented great possibilities for industrial development.

This project, involving a multitude of problems only indirectly related to housing, was of a scale and character beyond the previous experience of the Corporation. The "Ajax Advisory Committee" was set up to determine matters of policy, to shape the administration of the Project, and to guide the Manager in his administrative and promotional duties. The Committee is composed of Corporation officials from Head Office and the Ontario Regional Office. The Ajax Development Project is administered as a component of the Ontario Region.

The Advisory Committee appointed the writer as Planning Consultant, to lay out a general plan of the area, to make detailed plans for new housing projects, and to advise on matters affecting physical development. The Consultant sits as a member of the Advisory Committee.

It was decided at the outset that Ajax would not remain a "Government Town", but that the Corporation would co-operate with Provincial authorities in establishing full municipal government as soon as it became feasible to do so.

The problem was a peculiar one. Ajax already possessed municipal services comparable to those of a sizable town, plus a great network of roads in surprisingly good condition—much of which could be incorporated into a new plan. Yet the small population could not possibly maintain these assets nor undertake promotional work during the intensive period of development which lay ahead.

It was necessary to decide upon the best means of bridging the gap between Ajax the Federal Island and

Ajax the self-governing municipality. A number of alternatives were given serious study by the Advisory Committee, with the co-operation and assistance of the Department of Municipal Affairs and the Department of Planning and Development of the Ontario Government. It was finally agreed that the creation of an "Improvement District" might offer a workable solution.

An Improvement District is governed by a board of Trustees, who exercise the duties of an ordinary Council, as well as those of the School Board, Utilities Commission, and all other municipal authorities. The Trustees are responsible to the Provincial Department of Municipal Affairs. They are appointed, not elected, and consequently the inhabitants have no direct voice in local government. The Trustees, in discharging their municipal duties, do not officially represent any particular social group or business interest. But in practice, the selection of the Trustees usually reflects the principal elements in the Community. The idea was originally proposed to fit the requirements of mining towns and other isolated communities not sufficiently mature to qualify for self-government. A number of such Improvement Districts exist in Ontario, but the peculiar characteristics of Ajax place it in a class by itself.

The Improvement District originally proposed at Ajax included a considerable belt of farm land. From the planning point of view, this offered the obvious advantage of bringing a larger area under control of our zoning regulations. But the idea met with strong opposition, mainly from the rural population, and subsequently the application was withdrawn.

Several public meetings were held to clarify misunderstandings and to acquaint the people more fully with various aspects of the problem which had to be solved. Boundaries were re-drawn to include only Crown Land owned by Central Mortgage and Housing Corporation, rounded off by a small piece of adjoining territory.

The second application met with more favourable response. On the first of November 1950 the Improvement District of Ajax was brought into being by order of the Ontario Municipal Board. The three important components of the Ajax community were recognized in the composition of the Board of Trustees:  
 Chairman: B. DeForest Bayly (Bayly Engineering, Ajax);  
 Vice-Chairman: John Mills (long-time resident);  
 Member: W. W. Rideout (Assistant Manager, Ajax Development Project, C.M.H.C.)

The population of Ajax, now about four thousand, is a rather large number to be governed by appointed officials. It was of some importance that the Trustees should be men enjoying public confidence and respect. The success of Ajax as a municipal entity will depend to a great extent upon their wise handling of a multitude of local problems.

This of course is an interim measure. It is hoped that

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Ajax will assume the status of a self-sustaining, self-governing municipality within a few years' time. There will be no immediate visible evidence of the change. Central Mortgage and Housing Corporation, formerly the sole authority, now becomes the principal landowner and ratepayer. It will now be possible to offer lots for sale to individual purchasers, and thereby gradually transfer a greater measure of responsibility to the Improvement District.

### GOVERNING CONDITIONS FOR PLANNING

Preliminary planning studies were commenced in the summer of 1948. At this time the future status of Ajax had not been determined, but it was obvious that some time would elapse before any form of municipal authority

could come into being. In the meantime, C.M.H.C. exercised complete control.

This meant considerable freedom in planning, since we were dealing with a relatively undeveloped area in single ownership. But the planning of Ajax was by no means "planning from scratch". Our problem was to bring about a reasonable compromise between theoretical concepts and the practical limitations imposed by existing conditions.

In the original plant there was a central nucleus, containing the dormitories, storage warehouses for raw materials, the steam plant, offices, and other facilities housing the necessary administration. The manufacturing process was carried on in four "lines" of operational buildings running north and south, which consisted of

**Aerial view of Ajax taken in the spring of 1948 from the north: the single houses built during World War II in the foreground, then highway and railway routes, with industrial, future commercial and residential areas (formerly used for ammunition storage), and Lake Ontario beyond. (Central Mortgage and Housing Corporation)**

*Vue à vol d'oiseau d'Ajax, au printemps 1948, d'un point situé au nord. Les maisons unifamiliales construites durant la seconde Grande Guerre apparaissent au premier plan; on voit ensuite la grande route, les voies ferrées, le quartier industriel, les futurs quartiers de commercial et d'habitation—enfin, le lac Ontario (S.C.H.L.)*



widely spaced units connected by covered passages for the movement of explosive materials. Other large areas, far removed from the main centre, were used for explosive storage buildings. The entire project was very open in character, due to the nature of its processes.

The sewage disposal system had been designed primarily to serve the housing area and the offices and workshops in the "nucleus". Many of the storage buildings in the southern part are not connected to the sewer system. The disposal plant is located on the west side of the area, discharging chlorinated effluent into Duffin Creek. Several of the main sewer lines necessarily run counter to the natural drainage, and the system includes several pumping stations.

Water is supplied to practically all the buildings. The water pumping station is located on the lake-shore at the extreme south-east corner of the property, as far as possible from the mouth of Duffin Creek.

The entire plan was quite obviously laid out on the drafting board with little or no regard for topographic conditions. This despite the fact that a contour plan had been prepared covering practically the whole area. Roads ran straight as a die, north-south or east-west, cutting diagonally across the ridges and draws which are characteristic of the terrain.

Ajax is cut into two unequal parts by the Canadian National Railways main line and the new dual Highway 2A. These routes are spanned by Harwood Avenue, which is the central axis of the whole development. The northern section is comparatively small but completely built-up, consisting of the 600 dwellings in the Wartime Housing village.

Immediately south of the Highway lies a loosely organized group of buildings which comprised the heart of the explosive plant. Practically all are of temporary frame construction, clothed informally in wood clapboard, roll roofing or corrugated metal siding. The buildings are tied together with overhead wires and steam lines which add little to the beauty of the composition. The few surviving trees serve to emphasize the bareness of the landscape. This part of Ajax presents a decidedly casual appearance. Farther south the existing buildings are so widely spaced that the general impression is still that of open farmland.

Our problem, then, was to evolve a plan for the gradual development of an industrial community, salvaging as much as possible of the existing assets.

#### ZONING

It was essential to make an early decision regarding the general scheme of land use, in order to adopt an intelligent policy with respect to the disposal of existing buildings. As soon as the Corporation assumed control of Ajax, the Advisory Committee had to consider many offers for rental or purchase; in some cases the continued

use of buildings for industrial purposes would conflict with planning objectives.

The Corporation will consider the rental of land or buildings for any non-objectionable type of industry. If an offer is received for an industrial building located in an area designated for future residential use, the term of the lease is limited to a maximum of five years. At the expiry of this term, it may be practicable to renew the lease, depending upon the progress of development in that area. No building will be *sold* for industrial or commercial purposes unless located within the appropriate district.

The earliest planning studies were accepted in principle as a frame of reference for this policy. Subsequent refinement of the plan has not resulted in any significant change in the general pattern of land use.

Considerable study has been given to the preparation of a draft Zoning By-law. The special characteristics of Ajax required a new approach to the problem of drafting suitable regulations. Zoning by-laws, with few exceptions, are written for existing towns, in which overcrowding and non-conforming uses are already firmly entrenched. They pre-suppose a gridiron system of street layout, and are often primarily concerned with the protection of residential areas against encroachment of commercial and industrial uses.

Consequently the Ajax by-law differs from the usual regulations in several respects. In most by-laws the Use Districts are progressively less restrictive. That is, one begins with the Single-family Dwelling District and the regulations governing each subsequent district permit the precedent types of buildings. Finally, in the Heavy Industry District, "anything goes".

The Ajax By-law is aimed at a more precise segregation of land uses. Residential buildings are prohibited in commercial and industrial zones, just as commercial uses are prohibited in residential neighbourhoods. This on the theory that a mixture of dwellings and factories is equally undesirable, whether the district be designated as "residential" or "industrial".

Outdoor advertising is the disgrace of our towns and cities today. We would not deny that a well-designed signboard may have aesthetic qualities. Certainly the "great white way" has a vitality and charm that is part of urban life. Nevertheless, the indiscriminate use of signs, billboards, and other blatant forms of advertising is incredibly ugly. In the average town it is bearable only because we have in self-defence closed our eyes to it, and habitually pass down a street without actually seeing it.

The almost complete lack of signs in Ajax today makes it possible to anticipate the successful application of suitable restrictions. No billboards of any sort will be permitted. Shops will be identified by signs mounted on the facade of the building, with letters of reasonable size. Overhanging signs are prohibited. These regu-

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lations will apply also in the industrial zone, although signs will be less restricted as to size and location.

The by-law is designed to establish more generous standards than would be possible in an already existing town. Space, pure and simple, is in abundant supply. At the same time, the economic development of land must be considered, for it would not be reasonable to impose unnecessary burdens on the taxpayer. Our minimum requirements for setbacks, yards, and permissible occupancies, are not too far out of line with accepted practice. Perhaps the greatest difference is to be found in the regulations governing multiple-family dwellings. We have accepted the principle that the area of the site should bear a direct relationship to the number of families to be housed.

Moreover, the design of multiple dwellings affords the architect opportunities for the grouping of buildings in unconventional patterns. New ideas should not be ruled out, merely because they were unforeseen and consequently may not conform to the letter of the law. We therefore tried to make the regulations sufficiently flexible to permit the development of fresh solutions.

Although it is impossible to anticipate every eventuality, we attempted to check each provision of the by-law by graphic interpretation on the drafting board. Many sketches were made to determine the "worst possible case" conforming with the proposed regulations.

### GENERAL STRUCTURE OF THE PLAN

As yet there is no "official" master plan for Ajax. The General Plan dated September 1950 is the latest of a series of studies carried out during the past two years. The basic structure of the plan is very simple, and was largely determined by the governing conditions of the problem. The industrial area already existed as part of the old Defence Industries plant. The Wartime Housing village was completely built up. The existence of Second Street defined the southern limit of our first residential neighbourhood. The major elements of the General Plan are shown in the accompanying illustration.

Our principal thoroughfare, Harwood Avenue, extending southward from the bridge, will be flanked on the west side by the central business district, and on the east by a strip of land reserved for high-density housing. Between the business district and the industrial district a smaller area is allocated for light industrial uses.

Immediately south of the business centre is a large Recreation Area which will provide sites for the High School and future Community Hall. Surrounding the Recreational Area will be the residential districts, planned on the neighbourhood unit principle, each with its own school and small local shopping centre. There will be four such neighbourhoods, plus a residential district to the west suitable for more expensive houses on larger lots.

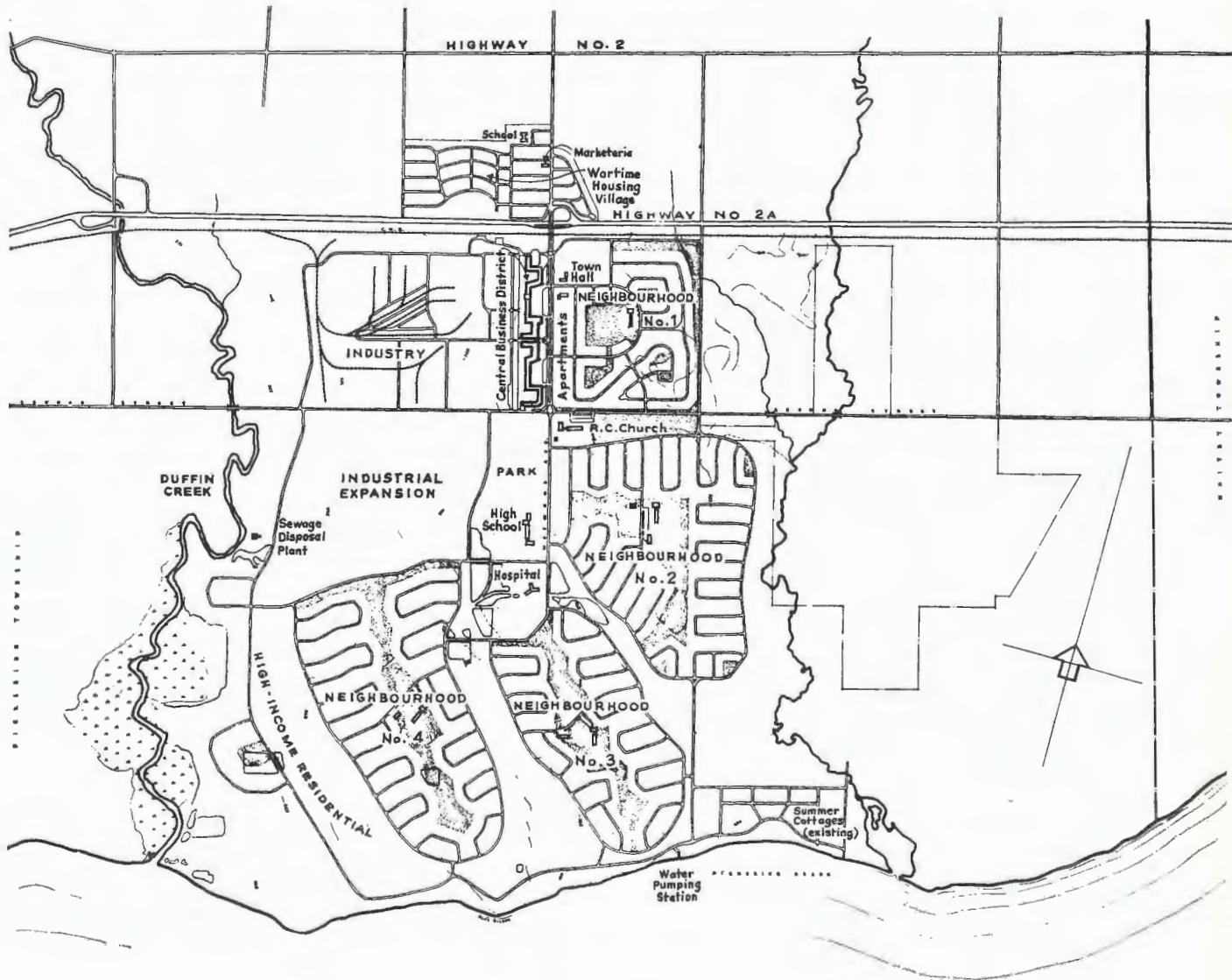
At the present time, planning in detail has been limited to the area north of Second Street. The major elements have been defined, and further planning will consist, in the main, of adjusting specific projects to the framework already laid down.

South of Second Street, the general layout of the proposed residential neighbourhoods conforms with topographic conditions. Engineering surveys now in progress will determine the precise extent of the area which can be included within a sewer system of economic design. Our plan will then be modified accordingly.

Our most serious problem is the matter of fringe development. At the present time, commercial facilities are sadly out of balance with industrial and residential growth. When the 600 Wartime Houses were built, a single groceteria was provided in conjunction with them. This is entirely inadequate, and it has been the direct cause of an unfortunate ribbon development along the northerly extension of Harwood Avenue, our principal traffic route. Small shops, built close to the street, have appeared here immediately beyond our boundary, in the usual pattern of uncontrolled expansion. This parasitic appendage is still growing, for lack of restrictive measures to prevent it. We are protected on the west by the existence of Duffin Creek, but on the eastern boundary a similar danger spot exists, and a small grocery has recently appeared to herald the possible beginning of a second fringe area. The Townships of Pickering and Whitby have established a Joint Planning Board. We hope that the problem will eventually be solved through the co-operation of the Planning Board and the Ontario Department of Planning and Development.

### THE CENTRAL BUSINESS DISTRICT

Studies indicated we should base our plan upon an assumed eventual population of 20,000 to 25,000 persons. It was then necessary to determine the probable requirements, in terms of space and frontage, for a business centre adequate to serve the future town. Study of land use statistics of existing cities would suggest the need for a much larger area than we have provided. Two important facts lead us to believe that the plan we have evolved will prove adequate. First, it is common knowledge that the average urban municipality has far more land in commercial use than it can maintain at a desirable level of prosperity. A high proportion of the total consists of vacant lots, junk yards, and all manner of run-down shops existing on a marginal economic basis. The second characteristic of Ajax is the clean-cut separation of through traffic, by reason of the new dual highway which cuts "under" the community without actually touching it. Transient trade will not be a significant factor in the economic development of the town. Ajax will be almost entirely self-contained in this respect.



General Plan of Ajax, Ontario, at a scale of about 3,000 feet per inch. (Kent Barker, Planning Consultant for Central Mortgage and Housing Corporation)

*Plan d'ensemble d'Ajax, reproduit à l'échelle d'environ 3,000 pieds au pouce. (Kent Barker, pour le compte de la Société centrale d'hypothèques et de logement.)*

We came to the conclusion that a business frontage of approximately 20 feet for each hundred of the population was a reasonable estimate of future needs. Part of this will be provided in the small neighbourhood shopping centres to be included in each new residential neighbourhood. This meant that the Central Business District could be accommodated on the west side of Harwood, extending from the new Highway to 2nd St.

The plan of the business centre was based upon the following objectives, which we accepted as mandatory requirements:

- Elimination, as far as practicable, of pedestrian traffic across motor roads.
- Separation of customer access, whether by motor or on foot, from service roads and employee parking.

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(c) Preservation of a generous scale, through massing of the buildings in large and simple elements.

A further objective is the promotion of unity in architectural design. This is suggested in the perspectives of the "Town Centre". It is neither practical nor desirable to insist upon standardized design for individual shops. We have recommended that all shops be linked by a continuous permanent canopy, permitting easy circulation in wet weather, and automatically providing a strong architectural element in the composition of the Plazas. The size and location of signs will be governed by regulations of the zoning by-law. This is perhaps as far as the planner can go, without infringing upon the rights of the architect. It is hoped that a measure of architectural control will be maintained, but it is not intended to impose unreasonable limitations on the design of store fronts.

The majority of business properties face upon either of the two large Plazas, in which ample space is provided for customer parking. A service road gives access to commercial buildings from the rear, and provides a completely separate traffic route for trucks. A few small shops may require to be serviced from the front, but these will be of minor importance. A strip of land has been reserved between the rear of the shops and the adjacent Light Industrial District. This will be available for employee parking, and also serves an aesthetic function. It is proposed to plant a number of trees in this strip, which in course of time will provide a satisfactory background for the commercial buildings. Otherwise, factories and warehouses of industry would be too prominent in the view across the Plazas toward the west. For a long time to come, many of the Plaza buildings will undoubtedly be only one storey in height.

Shopping facilities in Ajax are presently quite inadequate. The Corporation is taking the initial step in development of the business centre. Construction of the first unit of commercial buildings began in November 1950. The project will provide 17,500 square feet of rentable floor space. This includes a large drug store, a grocereria, two banks, and several small shops for hardware, clothing, and other day-to-day essentials.

This initial building, designed by the Architectural Department of C.M.H.C. conforms in every respect to the proposed plan, and is intended to establish a satisfactory standard of design. It is expected that future commercial construction will be carried out by private enterprise. It appears likely that the next project will be a motion picture theatre, to be located on the site designated in our plan.

### THE INDUSTRIAL DISTRICTS

The industrial area is already provided with numerous railway lines; the majority of these cut across the area on a diagonal. This is fortunate since the system affords an economical use of land. Less space is given over to

railway curves when the main feeders are placed in diagonal relationship to the smaller sidings. Practically all the present buildings are now in use as storage warehouses or for various industrial purposes. Many of them will continue to be useful and are an important source of revenue. These reasons influenced us to adjust our plan closely to existing conditions. The resulting layout, which appears messy on paper, is in reality quite practical and provides for easy subdivision into industrial sites of varying sizes.

That part of the industrial area lying south of Second Street was originally unzoned, and held in reserve as a "safety valve" to provide elasticity in planning. Its strategic location between industrial, recreational and residential zones would make it possible to expand any or all of these as necessity demanded. It now appears almost certain that the bulk of this area will be required for industrial purposes. In this district we intend to promote the construction of factories of the "garden city" type, located on spacious sites, designed and built to superior standards.

The land lying parallel to the Highway will of course be the industrial show window of Ajax. A high standard of architectural design and landscaping in this area will be our most effective "advertising". A large portion of this, as well as additional industrial land, has recently been purchased by Slough Estates, the British trading estate corporation. Factories will be constructed for rental purposes, or built to order as required.

For the most part, industrial activity in Ajax is now carried on in the old Defence Industries buildings. Eighteen or twenty separate industries are now in operation or occupy buildings for storage purposes. One large new plant has been completed for about a year, and another is presently under construction.

The improvement and development of the industrial area involves a number of sizable engineering projects. Relocation of power lines, new sewers, roads, and railway sidings, are all in various stages of planning or construction. It is intended to convert the present overhead steam lines to an underground system, serving most of the industrial buildings as well as the future business centre.

Industry is attracted to Ajax because of its location and because buildings are available with services already installed. For long-term occupancy the advantages of a comprehensive plan are also a factor. "Space to grow" is an important consideration to the industrialist who anticipates future expansion.

The Corporation has carried on a vigorous program of promotional activity, at the same time carefully screening all applicants to protect the community against any industries which might later become nuisances. The project Manager has been substantially aided by the assistance of the Trade and Industry Branch of the Ontario Department of Planning and Development, and

also by the Toronto Industrial Commission. Participation by the Commission is particularly noteworthy, indicating the regional scope of its interests as well as the metropolitan significance attached to the Ajax Development Project.

#### THE RESIDENTIAL NEIGHBOURHOODS

The Wartime Housing village north of the Highway will remain much as it is. All Crown land in this area is fully developed and no further expansion can take place within the boundaries of the Improvement District. Fringe growth in the surrounding Township is a difficult problem, as we have noted.

"Neighbourhood Number One", east of the Central Business District, is in a state of transition. It includes the Administration Building, the Post Office, Recreation Hall, Hotel and Cafeteria. Some of these may well remain, being conveniently adjacent to future business. The Hospital will shortly be moved to a permanent site.

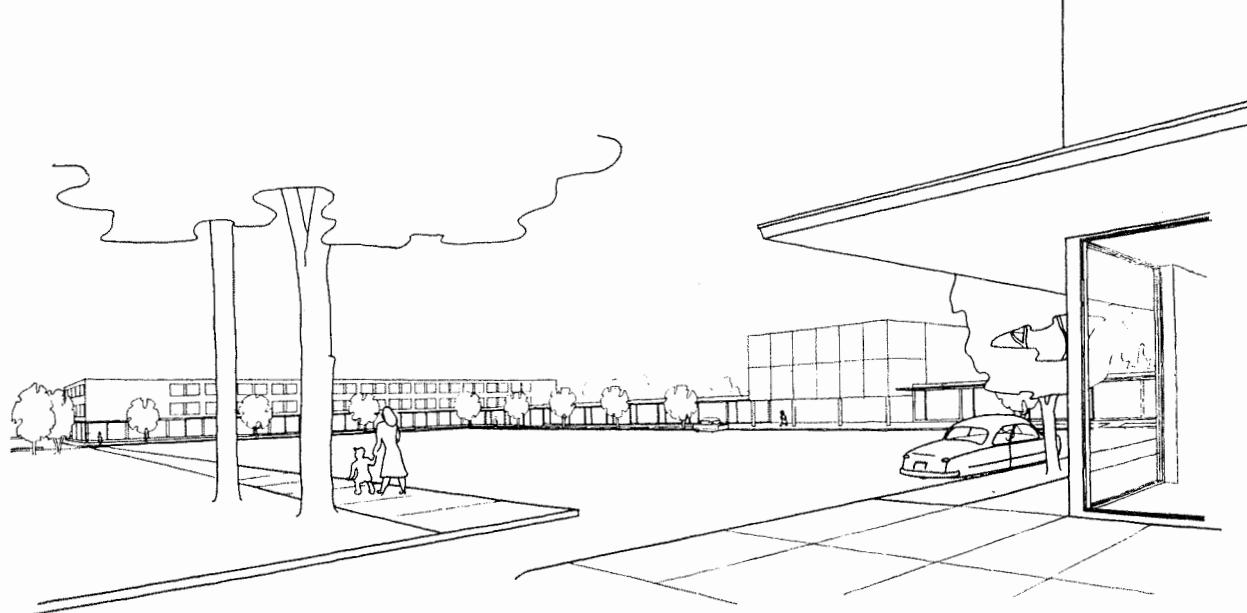
During the past two years three hundred houses have been built in this Neighbourhood under the Veterans' Housing Program. These are standardized houses giving layout problems peculiar to this type of development. We attempted to avoid excessive monotony by judicious variation in house plans and colour schemes. *Too much* variation creates a restlessness which in the final analysis is just another and worse kind of monotony. Lying somewhere between the two extremes is a middle path which we have tried to find.

The north-east portion is at present being provided with roads and services in accordance with our plan of subdivision. This area will soon be available for the construction of houses by private owners. Completion of the subdivision will round out the present development of the neighbourhood, except for the area reserved for high density housing.

A number of the original dormitory buildings still remain in the middle of Neighbourhood Number One. These have been in use for some time by the Federal Department of Labour, as a dispersal centre for immigrants. Eventually the dormitories will be demolished, and the space thus freed of buildings will become the neighbourhood park and school site.

Our recent projects have made use of existing roads and services as far as practicable and this has influenced to some extent the plan of Neighbourhood No. 1. Because of existing buildings and roads in this area, it was not feasible to apply planning theory as consistently as we would wish. As a general principle, we believe that local traffic is best handled by a ring road serving single loops extending inward to a central park area. This simple pattern is indicated on the General Plan in the case of Neighbourhoods Nos. 2, 3 and 4 where we have ignored many existing roads and adapted the circulation to topography. No doubt some modification in detail will be necessary after engineering problems have been explored in connection with detailed layout of these areas.

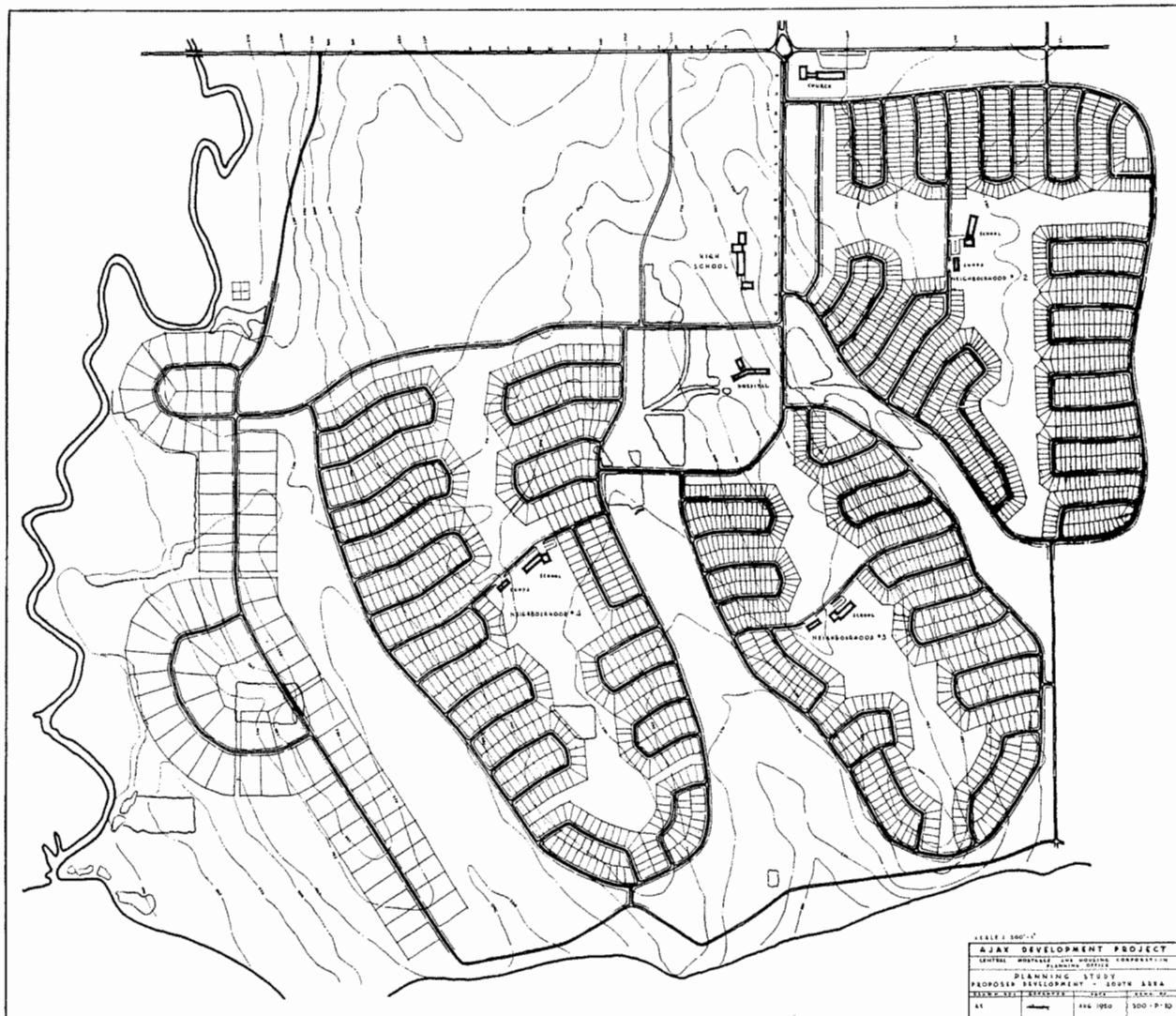
Perspective of Ajax Town Centre from northeast.



*Vue en perspective du centre commercial d'Ajax, d'un point situé au nord-est.*

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Study layout of neighbourhoods 2, 3 and 4 in the south area of Ajax, showing pattern of horse-shoe streets surrounding each unit of communal space and buildings; scale about 1,750 feet per inch as reproduced. (Kent Barker for Central Mortgage and Housing Corporation)



Dessin des quartiers 2, 3 et 4 de la partie sud d'Ajax, indiquant le tracé des ruelles en forme de fer à cheval qui entourent chaque ensemble de bâtisses et de terrains communaux. (Kent Barker, pour le compte de la Société central d'hypothèques et de logement.)

All the houses now existing in Ajax are standardized types. The original 600 Wartime Housing units are semi-permanent in construction. These are now undergoing a program of permanent improvements. Foundation walls, and in some cases complete basements, will replace the original cedar posts. Houses in the new projects are the present standard C.M.H.C. types, of permanent construction and with complete basements.

#### PARKS AND OPEN SPACES

Parks and other green areas are designed to provide a practically continuous system of open spaces throughout the community. No house in the new Ajax will be more than two hundred yards from park or greenbelt. Each neighbourhood will have its own interior park, including the site for its future public school. This recreational area will be easily accessible and quite generous in extent. At suitable locations the interior park will connect with the exterior "green belts" which extend like fingers between the neighbourhoods to separate and define them.

The interior parks and playgrounds are intended eventually to be landscaped and maintained as fully developed recreational areas. The exterior greenbelts can be left in their natural condition. We have provided generously for open spaces in the plan for Ajax. Land is free, except for the cost of development. In the absence of speculation it becomes possible to plan without attempting to wring out the last cent of revenue.

The barren aspect of the site is a depressing characteristic of Ajax today. In its landscaping program for the Ajax housing projects, C.M.H.C. is undertaking to do more than follow its customary practice. The streets and parks of Neighbourhood Number One are already being provided with trees of modest dimensions, placed to supplement and enhance the architectural layout. In addition, the circumference of the neighbourhood will eventually be defined by double rows of trees along the traffic arteries. Ten thousand seedlings will be planted next spring, as the first step in a program of forestation.

The entire lakefront will be kept open for public use. With the growth of Ajax, the development of this shoreline will no doubt be a major undertaking. Much of the shoreline consists of high bluffs, not the safest place for children to wander. The beach is narrow, pebbly, and in places inaccessible. But at one or two spots it will be possible to increase the beach in depth by carving out the eroded edge with a bulldozer.

#### CONCLUSION

The town planner is probably the most consistently frustrated professional man. This is so because he is

generally dealing with existing cities, bedevilled with traffic congestion, obsolete housing, and all the familiar manifestations of modern civilization.

By comparison, Ajax presented a clean, uncomplicated technical problem. We had no local politics with which to contend, and no municipal Council to convince or pacify. At the very beginning, the Ajax Advisory Committee accepted our planning objectives, and since then the Committee has proven most sympathetic and understanding.

To date we have managed with a planning organization small by comparison with the scale of the project. The bulk of the work has been accomplished during the summer months, with a staff of draftsmen drawn from the student body of the School of Architecture, University of Toronto. We accepted the terms of the problem as laid down, and did not carry out any elaborate social or economic research.

The planning staff, while dealing primarily with long-term objectives, also collaborates with the Manager in connection with his promotional duties. The selection of sites for various industries frequently requires minor adjustments to the plan. The route of a new sewer, or the detailed layout of roads involves discussions with the Project Engineer and his staff. In all phases of this work we have enjoyed the complete co-operation of both the Manager and the Project Engineer.

Residential development has gone ahead with satisfying dispatch. We have had the rare opportunity of learning from experience on the ground. In some other respects, actual construction has not progressed as rapidly as we had hoped. The machinery of Government moves, as always, with deliberate unhurried steps. Each phase of development has received careful consideration, with long-term objectives always in view.

As we write, the threat of imminent war is very real. No one can foresee the eventualities of the next few months, let alone ten or fifteen years. A state of national preparedness, of "war-in-peace", could change the face of Ajax overnight. Given conditions of relative peace and prosperity, we are quite certain that Ajax will develop rapidly as an industrial centre.

The General Plan is a framework, sufficiently elastic as yet, to take care of unpredictable requirements. The actual building of the town according to plan will call for constant supervision to ensure that each individual component fits into its proper place. Much detailed work remains to be done, and can only be done as Ajax grows and specific problems arise. This will be the real test of the validity of our basic assumptions.

*The following analysis endeavours to ascertain as objectively as possible the limits of the area covered by "Greater Quebec". It is actually the last chapter of a series of analyses on Quebec City that have been carried out in the past few years by the Faculty of Social Sciences of Laval University and which have recently been completed, thanks to a grant from Central Mortgage and Housing Corporation. The present article tries, first, to clarify the general meaning and certain connotations of the concept of "suburban area" and reference is made to some of the most significant studies on such areas in various countries. Reference is also made to the criteria most generally recognized as important for the delineation of suburban or metropolitan areas and the most important of these are applied to the analysis of "Greater Quebec". Similar studies have been made in other Canadian cities and will serve as a basis for the establishment of census tracts in all "metropolitan" Canadian cities at the time of the coming Decennial Census of 1951. It is suggested that the re-orientation of urban research thus stimulated and also, in many cases, financially supported in recent years by Central Mortgage and Housing Corporation, should be amplified because it is an essential prerequisite to realistic planning, on the local as well as on the regional levels. The author is Professor in the Faculty of Social Sciences at Laval University.*

## DELIMITATION D'UNE BANLIEUE DE GRANDE VILLE

par Jean-Charles Falardreau\*

UN DES faits élémentaires que nous rappelle la géographie ou la sociologie urbaine est que la ville est un habitat humain dynamique, sans cesse en voie d'expansion. Ainsi, au Canada, de 1931 à 1941, alors que la population habitant à l'intérieur des dix plus grandes villes du pays a augmenté dans une proportion de 9.2 pour cent, celle de leurs zones périphériques immédiates a augmenté de plus de 21 pour cent<sup>1</sup>. C'est un autre fait élémentaire que toute agglomération urbaine de quelque importance déborde généralement, en tant que "tout" social, les frontières officielles que détermine, sur les cartes, son statut juridique. La ville concrète se prolonge, hors de ses frontières administratives, en des espaces habités qui peuvent jouir d'une existence juridique et économique partiellement autonome mais qui lui sont intimement liés. La majorité des gens qui habitent ces localités périphé-

riques travaillent à la ville où ils se transportent quotidiennement par tramway, par autobus, par train ou en auto. C'est dans les magasins de la ville qu'ils font leurs achats. Ils fréquentent les cinémas et lisent les journaux de la ville. C'est à la ville qu'ils viennent chercher leurs loisirs et les services professionnels dont ils ont besoin. Il y a ainsi, au delà des limites juridiques de toute ville, une zone plus ou moins vaste que l'on doit, à toutes fins pratiques, considérer comme l'extension réelle de son territoire économique et social<sup>2</sup>.

Une partie imposante de la documentation scientifique contemporaine sur les villes est consacrée à l'étude des processus et des caractéristiques de ces zones suburbaines ou périurbaines. Mentionnons rapidement, en particulier: aux Etats-Unis, les travaux de McKenzie<sup>3</sup> et l'étude panoramique du Comité d'Urbanisme du "National Resources Committee" en 1937<sup>4</sup>; en Angleterre, les travaux

\* Parmi les travaux préliminaires d'étudiants exécutés sous la direction de l'auteur et auxquels la présente étude emprunte largement, il faut mentionner: Christian Hardy, *Esquisse de la banlieue métropolitaine de la ville de Québec*, (Mémoire présenté à la Faculté des Sciences sociales, Université Laval, Québec, 1945) et, Colette Beaudet, *Banlieue réelle de la ville de Québec*, (Mémoire présenté à la Faculté des Sciences sociales, Université Laval, 1946). Nous attirons aussi l'attention sur le fait que les principales données sur lesquelles notre analyse est étayée datent d'au moins quatre ans. C'est plus qu'il n'en fallait à la banlieue québécoise pour devenir autre et, pour autant, notre description a déjà un caractère "archaïque".

<sup>1</sup>*Housing and Community Planning*, Advisory Committee on Reconstruction, final Report (IV) of the Subcommittee, Ottawa, 1944, Table 13, p. 89.

<sup>2</sup>*Rural and Urban Composition of the Canadian Population*, Census monograph No. 6, Ottawa, 1938, Part B, ch. IV.

<sup>3</sup>R. D. McKenzie: *The Rise of Metropolitan Communities, Recent Social Trends*, 1932, ch. IX.

<sup>4</sup>*Our Cities: Their Role in the National Economy*, Report of the Urbanism Committee to the National Resources Committee, Washington, D.C. 1937.

de Dickinson<sup>5</sup>; en France, les analyses de Bunle sur les migrations alternantes dans la région parisienne<sup>6</sup>, les travaux du professeur Chabot<sup>7</sup>, et plus récemment, ceux qu'anime et dirige le remarquable géographe Pierre George<sup>8</sup>. Comme le rappelle celui-ci, la structure des zones périurbaines varie d'après l'époque historique où elles se sont formées. Le faubourg médiéval fut un fait géographique bien caractérisé. A leur tour, les formes d'accroissement urbain au cours de la période qui a précédé le développement de la grande industrie ont différé de ce que furent, plus près de nous, les processus d'accroissement des villes déterminés par les progrès dans les modes de transport et par les concentrations techniques et financières de la fin du XIXe siècle. Il ressort aussi des études auxquelles nous venons de faire allusion que l'un des premiers points à clarifier, dans nos recherches sur les zones périurbaines et les centres métropolitains, est celui de la terminologie. On applique en effet à la zone périphérique d'une grande ville diverses appellations. Certains auteurs distinguent, d'une part, la zone suburbaine, d'autre part, les localités-satellites. La première comprend la zone habitée de façon continue autour de la ville et dans laquelle on passe sans s'en rendre compte. Elle peut inclure plusieurs entités administratives officielles distinctes. Par "localités-satellites", on désigne des municipalités, des communes ou des villages séparés les uns des autres ainsi que de la ville elle-même par des espaces libres, ou peuplés de façon moins dense, mais directement liés à la ville par un système de transport fréquent et rapide<sup>9</sup>. D'autres auteurs désignent par le seul terme général de "conurbation" la totalité du territoire adjacent à la ville, peuplé de façon suffisamment continue, comprenant nécessairement plusieurs entités administratives distinctes et vivant dans l'orbite immédiat de la ville. Un autre groupe d'auteurs, enfin, identifient autour de toute ville d'une certaine importance, trois zones caractéristiques: 1o—celle qu'ils appellent la "banlieue immédiate" (*urban tract*), c'est-à-dire, comme son nom l'indique, le territoire contigu à la ville, construit de façon continue et dont la population est d'une densité relativement semblable à celle de la ville; 2o—la "moyenne banlieue" ou zone du voisinage (*city settlement area*), qui peut comprendre une portion assez étendue de la campagne environnante et qui inclut toutes les localités reliées à la ville par des liens de transport facile; elle se caractérise par une densité assez élevée de la population, intermédiaire entre celle de la ville et celle de la campagne proprement dite,

<sup>5</sup>City Region and Regionalism, London, Kegan Paul, 1947.

<sup>6</sup>H. Bunle, *Migrations alternantes dans la région parisienne*, 1931; L'agglomération parisienne et ses migrations alternantes en 1936; voir aussi, *L'éloignement entre domicile et lieu de travail dans la région parisienne*, (enquête anonyme), dans *Cinq Enquêtes Sociales*, Travaux et Documents, Cahier no 9, de l'Institut national d'études démographiques, Presses universitaires de France, 1950, pp. 42-56.

<sup>7</sup>Georges Chabot, *Les villes, Aperçu de géographie humaine*, Librairie Armand Colin, Paris, 1948, Troisième partie, ch. I, II.

ainsi que par un taux élevé de croissance de population; 3o—finalement, la "grande banlieue" ou plus exactement, la "région économique" (*trade area*) de la ville, d'un rayon souvent considérable et qui couvre tout le territoire d'où la ville tire les ressources essentielles dont elle a besoin et où elle écoule les produits qu'elle fabrique<sup>10</sup>. Il semble qu'il y ait peu de différence, en premier lieu, entre ce que ce dernier groupe d'auteurs appellent la "banlieue immédiate" et la "zone suburbaine" telle que décrite plus haut, et, en second lieu, entre la "zone du voisinage" et la zone des localités-satellites. Quels que soient les termes que l'on préfère, ces deux zones constituent les deux éléments d'une frange territoriale dépendant de la ville grâce à des relations de transport et de communication. Ce sont ces deux zones que l'on ajoute mentalement au territoire officiel d'une ville lorsqu'on dit le "grand Toronto" le "grand Montréal". Comme le note Pierre George, "pour le citadin, la notion de banlieue est . . . une notion de distance et, secondairement, une notion de conditions d'habitabilité, et de nature du peuplement"<sup>11</sup>.

En général, ce n'est pas une tâche simple d'établir les frontières réelles de la zone périurbaine (banlieue immédiate et zone du voisinage) d'une grande ville. C'est de façon graduelle, souvent imperceptible, que l'on passe de la ville à ce qui n'est plus la ville. Il existe néanmoins certains critères précis permettant de reconnaître les localités qui sont rattachées de façon organique à une agglomération urbaine principale. On se souvient de la façon dont McKenzie a jadis délimité la région métropolitaine de Chicago en traçant trois limites qui se superposaient à peu près: celle du rayonnement des journaux, celle de la zone où plus de 50 pour cent des billets de chemin de fer sont délivrés pour Chicago, finalement, celle de la zone qui envoie plus de 50 pour cent de son bétail à Chicago<sup>12</sup>. De l'avis de la plupart des auteurs, l'ensemble des critères permettant de déterminer de façon significative le rayon ou les rayons du champ d'attraction intense d'une ville sont les suivants: 1o—le système de communications rapides avec la ville; 2o—la livraison commerciale à domicile; 3o—la livraison des journaux; 4o—le service téléphonique; 5o—le service d'électricité; 6o—le service du gaz; 7o—le service d'aqueduc; 8o—la distribution postale par les facteurs urbains; 9o—le système d'égout; 10o—le volume de "migrations alternantes" quotidiennes des voyageurs (i.e. des salariés

<sup>8</sup>Pierre George, *La Banlieue: une forme moderne de développement urbain*, dans *Etudes sur la banlieue de Paris*, Cahiers de la Fondation nationale des Sciences politiques, No. 12, Librairie Armand Colin, Paris, 1950, pp. II-26.

<sup>9</sup>R. D. McKenzie, *The Metropolitan Community*, ch. IV; *Our Cities: their Role in the National Economy*, Part I, Section 2, *Metropolitan Areas*, pp. 33 ss.

<sup>10</sup>Georges Chabot, *op. cit.* pp. 185-189; R. E. Dickinson, *op. cit.*, Part III, *The City-Region*, ch. 6.

<sup>11</sup>*Op. cit.*, p. 14.

<sup>12</sup>R. D. McKenzie, *The Metropolitan Community*.

## D E L I M I T A T I O N D ' U N E B A N L I E U E D E G R A N D E V I L L E

ou résidents urbains) entre la ville et les localités-satellites<sup>13</sup>.

La brève analyse qui suit a pour but de délimiter aussi objectivement que possible la zone périurbaine réelle d'une ville canadienne, Québec. Elle constitue le dernier chapitre d'une série d'analyses du territoire social de la ville de Québec qui ont été poursuivies durant quelques années par la Faculté des Sciences sociales de l'Université Laval et qui ont été récemment complétées grâce à une subvention de la "Société centrale d'Hypothèques et de Logement"<sup>14</sup>. L'un des buts immédiats de cette étude générale de la ville de Québec et de sa banlieue était de soumettre au Bureau fédéral de la Statistique un plan adéquat de subdivision de la ville de Québec ainsi que du "grand" Québec en arrondissements de recensement (*census tracts*) en vue du prochain recensement de 1951. Avant de subdiviser le "grand" Québec, il s'agissait de déterminer exactement l'étendue du territoire qu'il comprenait. Après avoir noté de quelle façon le Bureau fédéral de la Statistique délimitait déjà le "grand" Québec aux fins de recensement, nous avons tenté de préciser son étendue en considérant principalement trois ordres de phénomènes; 1o—la croissance de la population dans les localités périurbaines depuis 30 ans; 2o—le réseau des moyens de transport; 3o—le système de communication téléphonique entourant la ville.

**1** En 1931, le Bureau fédéral de la Statistique reconnaissait pour la première fois l'existence de dix "grandes" villes canadiennes qui étaient: Montréal, Toronto, Vancouver, Winnipeg, Ottawa, Québec, Hamilton, Windsor, Halifax et Saint-Jean. En 1941 on leur ajouta London et Victoria. Le "Grand Québec" de 1931 comprenait les dix villes ou localités périphériques de Lévis, Lauzon, Giffard, Beauport, Saint-Colomb de Sillery, Saint-Michel Archange, Charlesbourg, Québec-Ouest, Sainte-Foye et Petite-Rivièrelle, et une population totale de 166,435 âmes. En 1941 on ajouta à cette liste deux autres localités: Beauport-Est et Montmorency. La population du "grand Québec" ainsi défini était passée à cette date à 200,814 âmes (tableau I) dont 75.1 pour cent dans la ville proprement dite et 24.9 pour cent dans la banlieue. Alors que la croissance de la population durant les 10 années de 1931 à 1941 a été de 15.4 pour cent dans la ville proprement dite, elle fut, dans cette banlieue seulement, de 19.4 pour cent<sup>15</sup>.

**2** Afin de mieux préciser les limites du grand Québec et les localités qu'il englobe, considérons l'accroissement de la population depuis trente ans dans toutes les localités situées à l'intérieur d'un rayon de vingt milles

<sup>13</sup>C. E. Merriam, *The New Metropolitan Regions in the United States*.

<sup>14</sup>Jean-C. Falardeau, *Etude Générale de la ville de Québec*, manuscrit non publié, Faculté des Sciences sociales, Université Laval, Québec, septembre 1949, 179 p.

<sup>15</sup>Advisory Committee on Reconstruction: IV, *Housing and Community Planning*. Ottawa, 1944, p. 89.

**TABLEAU I—POPULATION DU 'GRAND QUEBEC', 1941**

Grand Québec . . . . .	200,814
1. Québec, proprement dit . . . . .	150,757
2. Beauport (ville) . . . . .	3,725
3. Beauport-Est (village) . . . . .	587
4. Charlesbourg (village) . . . . .	2,789
5. Giffard (village) . . . . .	4,909
6. La Petite-Rivièrelle (paroisse) . . . . .	281
7. Lauzon (ville) . . . . .	7,877
8. Lévis (cité) . . . . .	11,991
9. Montmorency (village) . . . . .	5,393
10. Québec-Ouest (ville) . . . . .	3,613
11. S.-Colomb de Sillery (paroisse) . . . . .	4,214
12. Sainte-Foye (paroisse) . . . . .	2,682
13. S.-Michel Archange . . . . .	1,990

*Huitième Recensement du Canada, Bulletin Préliminaire, Population A-13, p. 3*

Les localités dont la population s'est le plus accrue (de 150 pour cent et plus) sont Québec-Ouest, Giffard, Courville, Charlesbourg, Sainte-Foye, Charny, Lauzon, Notre-Dame des Laurentides, Loretteville, Lévis, Breakeyville et Boischatel.

au nord de la ville, et d'un rayon de quinze milles, au sud.

Si nous groupons toutes les localités périphériques par zones de cinq milles en cinq milles autour de la ville, nous constatons que le taux d'accroissement de la population est considérablement plus élevé dans la zone entourant immédiatement la ville et qu'il diminue au fur et à mesure que l'on s'éloigne de celle-ci (tableaux II, III, IV, V): de 1911 à 1941, la population de l'ensemble des localités situées à l'intérieur de la première zone de 5 milles a augmenté de 128.8 pour cent; celle des localités de la zone dans un rayon de 5 à 10 milles a augmenté de 66.6 pour cent; celle des localités de la zone suivante, dans un rayon de 10 à 15 milles, a augmenté de 40.1 pour cent seulement alors que la zone la plus éloignée de la ville, dans un rayon de 15 à 20 milles, a vu une augmentation plus considérable, soit, de l'ordre de 51.8 pour cent.

**3** Le fait d'une croissance rapide et continue de sa population ne signifie pas, à lui seul, qu'une localité à proximité d'une grande ville fait "partie" de la banlieue de celle-ci. Elle en sera partie intégrante si elle lui est liée en quelque sorte organiquement, et ceci par un mode de transport rapide et fréquent. Considérons donc le réseau et les caractéristiques des voies de transport qui relient au centre de Québec les localités qui l'entourent.

En premier lieu, un certain nombre de localités municipalement indépendantes et contiguës à Québec bénéficient du même système de transport par autobus que la ville, avec la seule différence que les passagers doivent généralement payer un prix spécial. Les municipalités de cette catégorie sont: Québec-Ouest, Sillery, Giffard, Beauport, Beauport-Est, et Courville. Tous les villages de la côte de Beaupré, jusqu'à Beaupré, sont desservis par des trains électriques appartenant à la compagnie même qui possède le système de transport québécois, la Québec

TABLEAU II—POPULATION ET ACCROISSEMENT RELATIF ET ABSOLU DE LA POPULATION DES LOCALITES GROUPEES A L'INTERIEUR D'UN RAYON DE CINQ MILLES DE QUEBEC†

Localités	1911	1921	1931	1941
Beauport.....	..	3,240	3,242	3,725
Beauport est.....	..	480	587	
Bienville.....	1,004	1,462	..	
Charlesbourg.....	..	1,267	1,869	2,789
Giffard.....	..	1,254	3,573	4,909
Lauzon.....	3,978	4,666	7,084	7,877
Lévis.....	7,452	10,470	11,724	11,991
Petite-Rivière.....	..	..	247	281
Québec ouest.....	..	130	1,813	3,619
Saint-David.....	738	833	828	875
Saint-Michel				
Archange.....	1,482	1,859	2,549	1,990
Saint Romuald....	3,993	3,825	3,722	4,027
Total.....	18,647	29,005	37,131	42,670
Augmentation absolue.....	..	10,359	18,484	24,023
Augmentation relative*.....	100.	155.5	199.1	228.8

\* 1911=100

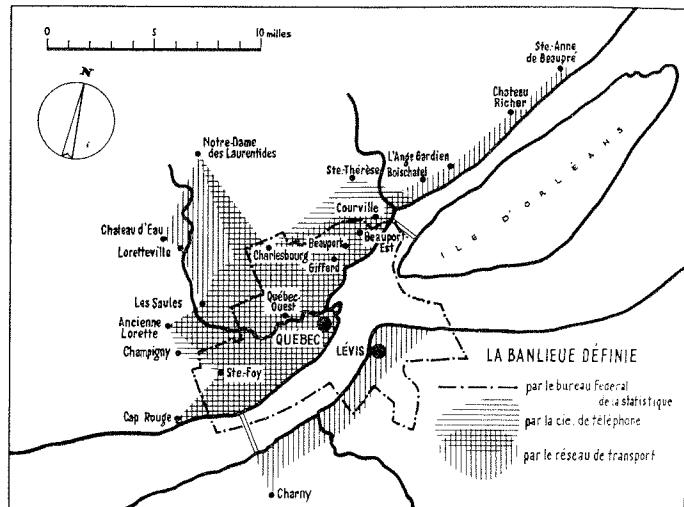
† On n'a pu obtenir les données pour Sillery. Comme cette localité constitue la portion la moins discutable de la banlieue québécoise, l'omission n'a pas de conséquence grave.

TABLEAU III—POPULATION ET ACCROISSEMENT RELATIF ET ABSOLU DE LA POPULATION DES LOCALITES GROUPEES A L'INTERIEUR D'UN RAYON DE CINQ A DIX MILLES DE QUEBEC

Localités de 5 à 10 milles	1911	1921	1931	1941
l'Ancienne Lorette	2,740	2,620	3,018	3,750
l'Ange-Gardien...	1,447	1,167	1,332	1,421
Boischatel.....	..	571	783	882
Charlesbourg ouest	..	295	310	386
Charny.....	1,488	2,265	2,823	2,831
Château d'Eau...	..	..	160	289
Courville.....	910	1,293	1,678	2,011
Loretteville.....	1,588	2,066	2,251	2,564
N.-D. Des Laurentides....	1,010	1,150	1,268	1,862
Pintendre.....	924	942	944	1,063
Saint-Ambroise...	2,020	1,907	1,553	1,884
Saint-Emile.....	..	..	713	976
Sainte-Foye.....	1,219	1,473	1,973	2,682
Saint-Jean Chrysostôme.....	1,007	1,130	1,032	1,238
Total.....	14,353	16,879	19,838	23,839
Augmentation absolue.....	..	2,526	5,485	9,486
Augmentation relative*.....	100.	117.5	138.2	166.09

\* 1911=100

The metropolitan area defined arbitrarily by the Dominion Bureau of Statistics for the 1941 Census, and functionally by telephone service and urban transit service



La 'grande ville' délimitée arbitrairement par le Bureau fédéral de la statistique en vue du recensement de 1941 et en fonction des services fournis des compagnies de téléphone et de transport

Power Company. Les trois villes jumelles faisant face à Québec sur la rive sud, Lévis, Bienville et Lauzon, sont reliées entre elles par le tramway et à Québec par un système régulier de bateaux *traversiers*. Finalement, il faut remarquer que deux autres localités de la rive sud, Charny et Saint-Romuald, sont reliées par autobus à la fois à Lévis et à Québec.

TABLEAU IV—POPULATION ET ACCROISSEMENT RELATIF ET ABSOLU DE LA POPULATION DES LOCALITES GROUPEES A L'INTERIEUR D'UN RAYON DE DIX A QUINZE MILLES DE QUEBEC

Localités de 10 à 15 milles	1911	1921	1931	1941
Beaumont.....	746	736	813	791
Breakeyville.....	731	1,005	890	1,194
Château Richer...	1,773	1,857	2,250	2,348
Saint-Gérard.....	886	833	915	1,082
Saint-Henri.....	..	417	453	481
Saint-Nicholas...	1,543	1,473	1,510	1,738
Stoneham.....	735	885	874	1,038
Val Saint-Michel...	..	..	..	316
Total.....	6,414	7,206	7,705	8,988
Augmentation absolue.....	..	792	1,291	2,574
Augmentation relative*.....	100.	112.3	120.1	140.1

\* 1911=100

## DELIMITATION D'UNE BANLIEUE DE GRANDE VILLE

**TABLEAU V—POPULATION ET ACCROISSEMENT RELATIF ET ABSOLU DE LA POPULATION DES LOCALITES GROUPEES A L'INTERIEUR D'UN RAYON DE QUINZE A VINGT MILLES DE QUEBEC**

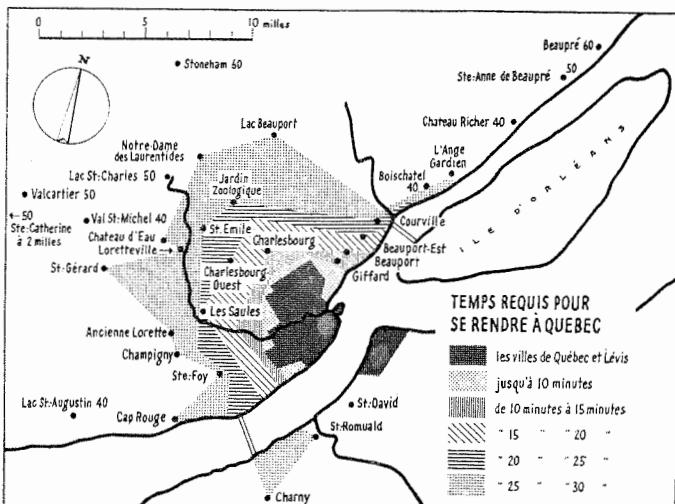
Localités de 15 à 20 milles	1911	1921	1931	1941
Beaupré.....	..	..	1,233	1,501
Lac Saint-Joseph.....	..	..	13	
Neuville.....	..	365	571	616
Saint-Anne de Beaupré.....	2,381	2,610	2,936	2,739
Saint-Catherine.....	1,158	1,072	1,007	1,341
Saint-Joachim.....	853	940	1,131	1,232
Saint-Michel.....	1,454	1,296	1,370	1,433
Total.....	5,846	6,283	8,248	8,875
Augmentation absolue.....	..	437	2,402	3,029
Augmentation relative*.....	100	107.4	141.08	151.8

\* 1911=100

Nous noterons, en premier lieu, la fréquence quotidienne des voyages du train ou de l'autobus qui sont à la disposition des habitants des localités entourant Québec.—Le tableau suivant (VI) rapporte le nombre de voyages simples, c'est-à-dire dans une seule direction, que font dans une journée les trains ou autobus venant de la banlieue vers Québec. Considérant comme un minimum significatif la moyenne de 10 voyages quotidiens, 24 localités ou points du territoire de la banlieue sont liés à Québec de façon relativement fréquente.

Le prix des billets de transport est déterminé, jusqu'à un certain point seulement, par la distance parcourue

### *Les zones de la banlieue en fonction du temps requis pour se rendre au centre de la ville*



The zones of the metropolitan area in terms of the time required to reach the centre of the city by public transit

par le voyageur et, dans une grande mesure, par la densité du trafic voyageur: plus une compagnie de transport prévoit de voyageurs pour un trajet donné, moins le prix du voyage sera élevé. Dans le même tableau VI nous voyons ce qu'il en coûte au voyageur pour un voyage simple, et pour un voyage aller-et-retour, à partir des différentes localités autour de Québec. Ce tableau pourrait servir de base à une seconde carte, à comparer avec la précédente et les suivantes, où seraient reproduites des zones concentriques entourant Québec d'après le prix du voyage simple pour se rendre à la ville de 10 sous en 10 sous, ou de 15 sous en 15 sous.

Un des éléments les plus importants qui détermine les citadins à aller s'établir de façon permanente dans une localité de la banlieue sera de savoir qu'on peut aller de cette localité à la ville dans un temps relativement court, nonobstant la distance entre les deux points. En nous basant sur nos observations de la banlieue québécoise, nous soumettons qu'une moyenne de 30 minutes du centre de la ville semble être le maximum de distance-temps que les résidents des localités environnantes considèrent comme "raisonnable". En nous basant sur ce critère relatif, nous pouvons vérifier d'une troisième façon quelles sont les localités intimement liées à Québec en groupant toutes les localités de la banlieue d'après le temps requis pour se transporter de chez elles à la ville.

Si maintenant, comparant les unes aux autres les constatations précédentes, nous établissons comme critères de "proximité réelle" du centre de la ville: 1o—une moyenne de 10 voyages quotidiens entre les localités et Québec; 2o—un prix moyen d'environ 30 sous pour un voyage simple entre les localités et la ville; 3o—une distance-temps d'environ 30 minutes du centre de la ville, nous aurons une assez juste idée des localités entourant Québec qui sont reliées à la ville par un système de transport fréquent, peu coûteux et rapide (tableau VI). Ces localités comprennent, en outre de celles qui sont liées à Québec par son propre système d'autobus et que nous avons mentionnées ci-haut, les vingt agglomérations suivantes: l'Ancienne Lorette, Boischatel, Cap Rouge, Charlesbourg, Charlesbourg-Ouest, Charny, Château d'Eau, Giffard, Loretteville, Montmorency, Nord-des-Rivières, N.-D. des Laurentides, Petite-Rivière, Saint-David, Saint-Romuald, Sainte-Foye, Les Saules, Lévis, Bienville et Lauzon. Nous appellerons le territoire où sont situées ces localités la "banlieue des services de transport".

4 Le service du téléphone urbain "local", c'est-à-dire pour lequel le coût de l'abonnement est le même qu'à la ville, s'étend à plusieurs municipalités au nord de Québec dont les principales sont: Cap Rouge, Saint-Foye, Champigny, Ancienne Lorette, Les Saules, Charlesbourg, Charlesbourg-Ouest, Giffard, Beauport, Courville, Boischatel, Saint-Grégoire et N.-D. des Laurentides. Dans l'annuaire, les abonnés de ces zones sont inscrits avec les abonnés de Québec (en 1946).

La compagnie de téléphone Bell exploite un service spécial appelé service de zone suburbaine, particulier à la "région métropolitaine". Ce service est facultatif et est offert surtout aux abonnés qui communiquent souvent avec Québec. En plus du service local, les abonnés ont

TABLEAU VI—DISTANCE EN UNITES DE PRIX, DE TEMPS ET DE VOYAGES QUOTIDIENS ENTRE QUEBEC ET LES LOCALITES ENVIRONNANTES

Localités	Prix		Temps en minutes	Voyages quotidiens
	Aller	Aller et retour		
l'Ancienne Lorette....	.25	.50	30	20
l'Ange Gardien (T)*....	.30	.55	28	10
Boischatel (T).....	.20	..	25	10
Boischatel.....	.25	.35	40	12
Breakeyville.....	.40	.75	..	2
Camp Saint-Emile....	.30	.50	25	8
Camp Saint-Jacques....	.50	.75	..	8
Cap Rouge.....	.25	.45	30	12
Champigny.....	.30	.50	40	4
Charlesbourg.....	.15	.25	15	36
Charlesbourg-Ouest....	.20	.35	20	36
Charny.....	.30	.60	40	14
Château d'Eau.....	.25	.45	30	36
Château Richer (T)....	.45	.85	40	10
Chemin Saint-Louis....	.20	.40	..	12
Giffard (T).....	.10	.20	10	25
Grand Désert.....	.30	.50	35	20
Gros-Pin.....	.10	.20	10	36
Jardin Zoologique....	.25	.45	30	36
Lac Beauport.....	.35	.60	30	6
Lac Saint-Augustin....	.35	.60	40	4
Lac Saint-Charles....	.35	.60	50	8
Laval.....	.50	.75	..	4
Loretteville.....	.25	.45	30	36
Montmorency (T)....	.15	.25	20	24
Nord des Rivières....	.15	.25	..	20
N.-D. des Laurentides.	.25	.45	30	20
l'Ormière.....	.25	.40	18	20
Petite-Rivière.....	.10	.20	15	20
Québec-Ouest.....	.10	.20	..	Continuel
Saules (les).....	.15	.30	20	20
Sainte-Claude.....	.30	.45	..	20
Saint-David.....	.15	..	..	..
Saint-Gérard.....	.35	.50	30	20
Saint-Joachim (T)....	.75	1.40	60	9
Saint-Michel.....	.40	.60	40	20
Saint-Romuald.....	.30	.60	30	16
Sainte-Anne de Beaupré, (T).....	.60	1.10	50	10
Sainte-Catherine.....	.75	1.00	50	1
Sainte-Foye (limites) ..	.20	.35	30	22
Sainte-Thérèse.....	.25	.50	..	4
Stoneham.....	.50	.75	60	3
Valcartier Camp.....	.50	.75	50	20

\* Les localités accompagnées d'un (T) sont situées sur la ligne de Sainte-Anne de Beaupré et sont desservies par des trains électriques.

† Tarifs pour Québec.

droit à 50 appels avec Québec pour les postes commerciaux et à 30 appels pour les postes domiciliaires. Toutes les communications au delà de ce nombre coûtent cinq sous chacune.

Les localités jouissant du service de zone suburbaine sont les suivantes:

*Charny* y compris Breakeyville, Saint-Nicholas, Saint-

Rédempteur et Saint-Etienne.

*Lévis* y compris Saint-Henri, Saint-David, Pintendre, Saint-Charles Beaumont, Bienville, Ville-Guay.

*Saint-Romuald* y compris Saint-Jean Chrysostôme.

*Loretteville* y compris Château d'Eau, Val Saint-Michel, Valcartier, Saint-Gérard, Saint-Emile.

*Sainte-Pétronne* y compris les autres villages de l'Ile d'Orléans, soit: Saint-Laurent, Saint-Pierre, Saint-Jean, Sainte-Famille et Saint-François.

Nous constatons que les localités de la banlieue téléphonique immédiate où il n'y a aucun tarif spécial pour téléphoner à Québec, et celles de la "banlieue du transport" coïncident dans seize cas. Ce sont: Cap Rouge, Sainte-Foye, L'ancienne Lorette, Les Saules, Charlesbourg-Ouest, N.-D. des Laurentides, Charlesbourg, Giffard, Beauport, Beauport-Est, Courville, Boischatel, Montmorency, la Petite-Rivière, Québec-Ouest et Sillery. Ajoutons à cette liste les localités de la zone téléphonique suivante que la compagnie de téléphone désigne comme zone "suburbaine", Loretteville, Château d'Eau, Charny, Saint-Romuald, Saint-David, Lévis, Lauzon et Bienville.

Les conclusions de notre étude démographique s'accordent avec les deux conclusions précédentes. En effet, en plus des municipalités de Sillery, Sainte-Foye, Québec-Ouest, Charlesbourg, Giffard, Beauport et Courville, toutes situées en bordure de la ville, d'autres localités ont une forte densité de population due à un accroissement considérable de population. C'est le cas de Charny, Saint-Romuald, l'ancienne Lorette, Loretteville. Là où la banlieue téléphonique et la banlieue des services de transport diffèrent, le problème doit être étudié de plus près. Tel est le cas de la côte de Beaupré, de Valcartier, de l'Ile d'Orléans.

#### CÔTE DE BEAUPRÉ

Il semble que l'on doive considérer toute la côte de Beaupré comme faisant partie de la banlieue réelle de Québec, bien que quelques-unes de ses localités ne fassent pas partie de la banlieue téléphonique. En effet, pour téléphoner à Québec on paie 0.15 de Château Richer et 0.20 de Sainte-Anne de Beaupré. L'analyse de quelques données démographiques nous aidera à situer ce problème dans sa juste perspective.

Sainte-Anne de Beaupré ne présentait au recensement de 1941 qu'une augmentation de population de 15.03% par rapport à 1911. Cette augmentation est en réalité un peu plus considérable si l'on considère qu'une partie du territoire a été retranchée pour former la municipalité de Beaupré. Mais une fois Beaupré constitué en corporation municipale, il reste vrai qu'en 1941, Sainte-Anne

## DELIMITATION D'UNE BANLIEUE DE GRANDE VILLE

de Beaupré avait 197 habitants de moins qu'en 1931, ce qui représente une diminution de 6.7%. Château-Richer suit une courbe assez régulière dans l'augmentation de sa population, soit, en se servant toujours de 1911 comme base, 4.7% en 1921, 26.9% en 1931 et 32.4% en 1941. L'Ange Gardien a subi, en 1921, une forte baisse de population due à la constitution de Boischatel en corporation municipale distincte. Ainsi, en prenant l'année 1921 comme base de nos calculs, l'augmentation de sa population est de 14.14% en 1931 et de 21.76% en 1941. D'autre part, le volume du trafic voyageur quotidien entre la côte de Beaupré et Québec se répartissait, en mars 1946, de la façon suivante: Beaupré—17 voyageurs quotidiens; Sainte-Anne de Beaupré—105 voyageurs quotidiens; Château-Richer—204 voyageurs quotidiens.

Toutes ces données sont à elles seules insuffisantes et il nous faudrait, entre autres, une analyse plus détaillée du lieu de travail de la population de la côte de Beaupré. Des faits que nous connaissons par ailleurs, une constatation semble cependant s'imposer, à savoir, que le train électrique qui relie à Québec les gros villages-chenilles de la côte de Beaupré fait de celle-ci, au delà comme en deça de la rivière Montmorency, une extension de la banlieue québécoise,—au même degré et au même titre que, par exemple, les localités de l'ouest de l'Île de Montréal qui sont, au moins jusqu'à Sainte-Anne-de-Bellevue, rattachées au centre métropolitain par de multiples trains quotidiens "de banlieue".

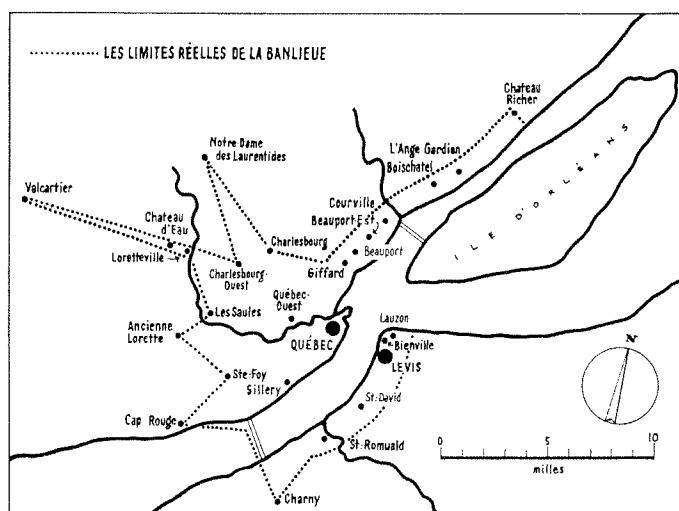
### VALCARTIER

Voici un cas tout-à-fait à l'opposé de celui des autres municipalités de la banlieue. Ce ne sont pas les gens de Valcartier qui viennent chercher leur gagne-pain à Québec, mais bien des personnes demeurant à Québec qui vont travailler dans les usines de Valcartier. Il faut noter que Valcartier possède le service téléphonique de zone suburbaine. Le système d'autobus qui dessert Valcartier, vu la distance, ne peut être compris dans les communications rapides et économiques. Mais nous savons que lorsque les usines produisaient à plein rendement, durant la guerre, des trains spéciaux du C.N.R. se rendaient directement de Québec à Valcartier, transportant des centaines de voyageurs. Depuis la fin de la guerre, les "migrations alternantes" quotidiennes entre Valcartier et Québec n'ont fait que s'amplifier.

### L'ILE D'ORLÉANS

Depuis la construction du pont de l'Île, celle-ci se laisse de plus en plus pénétrer par l'influence de la ville. Ce n'est plus une région fermée, imperméable à tout changement. En été, de nombreux cultivateurs viennent vendre leurs produits aux marchés de la ville et par contre des citadins y passent leurs vacances. L'Île d'Orléans est aussi inscrite dans la zone suburbaine de téléphone. Mais malgré ses transformations, l'Île d'Orléans demeure essentiellement agricole. Elle est *en voie* d'être intégrée concrètement dans la banlieue québécoise.

The metropolitan area (outlined in dotted line) as defined by the author



### LA BANLIEUE RÉELLE DE QUÉBEC

Nous croyons maintenant pouvoir répondre à la question posée au début: "jusqu'où s'étend la banlieue de Québec?" A la lumière de l'exposé qui précède, voici les localités qui semblent reliées organiquement à la ville: en premier lieu, sans contredit, Sillery, Giffard, Lévis, Lauzon, Bienville; puis

l'Ancienne Lorette, l'Ange Gardien, Beauport, Beauport-Est, Boischatel, Cap Rouge, Charlesbourg, Charlesbourg-Ouest, Charny, Château d'Eau, Château-Richer, Courville, Loretteville, Montmorency, N.-D. des Laurentides, Petite-Rivière, Québec-Ouest, Saint-David, Saint-Michel Archange, Saint-Romuald, Sainte-Foy, Les Saules, Valcartier.

A la liste des localités-satellites telles qu'énumérées par le Bureau fédéral de la Statistique, il faudrait donc ajouter:

l'Ancienne Lorette, l'Ange Gardien, Boischatel, Cap Rouge, Charlesbourg-Ouest, Charny, Château d'Eau, Courville, Loretteville, N.-D. des Laurentides, Saint-David, Saint-Romuald, Les Saules, Valcartier.

Cette conclusion est incontestablement basée sur une analyse très partielle. Elle est en quelque sorte provisoire mais nous la soumettons à titre de tentative méthodologique sur un problème concret. Nous la proposons aussi aux commentaires et aux critiques. Les recherches qui ont été provoquées ou stimulées au Canada ces dernières années par la "Société centrale d'hypothèques et de logement" marquent une réorientation prometteuse dans le sens d'une connaissance plus systématique et plus approfondie des milieux urbains de notre pays. Sans cette connaissance qui présuppose un patient effort d'investigation des réalités géographiques et sociales, beaucoup de plans d'urbanisme risquent de n'être que des désirs utopiques.

*M. Keyfitz est sociologue à l'emploi du Bureau fédéral de la statistique. Il note le rythme instable de la construction de logements au Canada, depuis un quart de siècle. Il observe combien fébrilement se fait actuellement le croissance urbain; et il présente un résumé statistique indiquant d'où proviennent les fonds affectés à la construction, ainsi que la répartition des sommes d'après les différents genres de constructions. L'auteur mentionne ensuite les facteurs qui, à son avis, ont une influence sur la décision des gens possédant des fonds qu'ils veulent placer dans la construction. En conclusion, il souligne que c'est tout récemment que les bailleurs de fonds se sont rendu compte de l'importance sociale de la rareté de logements; que la façon actuelle d'urbanisation n'a rien à voir aux aspects techniques de l'urbanisme lui-même, mais qu'elle dépend uniquement de la conception que se fait de son cas particulier chaque bailleur de fonds; et qu'enfin les conceptions en matière d'urbanisme peuvent être si incomplètes chez les bailleurs de fonds que les résultats imprévus en viennent, dans le cas de fortes mises de fonds, à éclipser les avantages espérés.*

## THE DECISION MAKERS IN RESIDENTIAL BUILDING

by Nathan Keyfitz

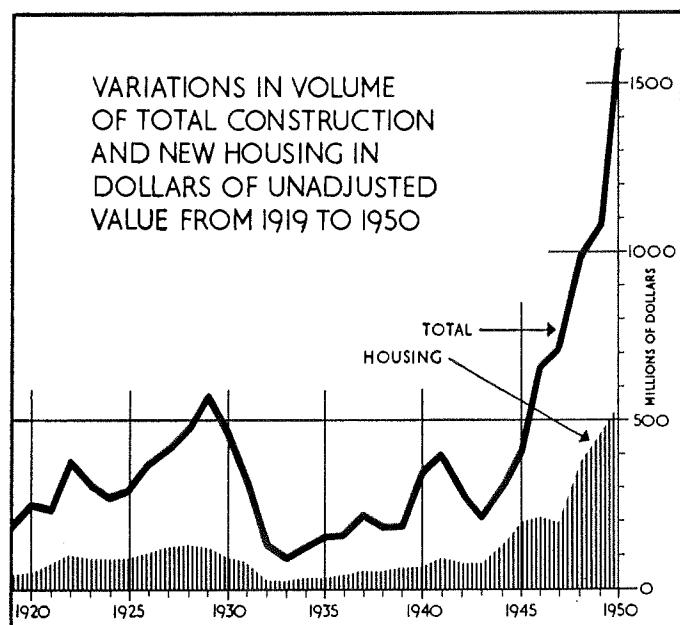
**I**N THIS paper I shall present certain statistical facts, and once I have brought these to light I shall take off my statistician's spectacles and put on my sociologist's for a closer look. I think it likely that the Bureau of Statistics would wish to dissociate itself from what I see when I change spectacles.

The 25-year record of dwelling construction shows swings of wide amplitude — 1945-49 averages about 6 times 1935-39 in value while 1931-35 is only one-third of 1925-29. One would like to be able to present figures showing the (presumably more uniform) rates at which old dwellings are becoming unusable while varying numbers of new ones are being built, so that the net increase could be calculated for each year.

However, past obsolescence is not what we wish to relate to current building. We are concerned rather with the fixing of the future environment, how long into the future houses now being built will last. On this point, obviously, no experience is available; a fairly conservative depreciation practice assumes forty years life. In many cases houses stand until they fall down of their own accord.

In the perspective of the future, today's high rate of building has a somewhat fateful character. Somewhat arbitrarily assuming  $\frac{1}{4}$  to  $\frac{1}{2}$  of an acre for each dwelling that is now being constructed — this to include roads, parks, stores and other facilities, (as well as some unused land) the area fixed in a year by the construction of 80,000 — 100,000 dwelling units is of the order of 50 square miles, equal to that occupied by the incorporated city of Montreal, and greater than that of any other

Variations in volume of all construction contracts and of housing contracts, in dollars of unadjusted value, for Canada (excluding Newfoundland) 1919-1950. (Based on Maclean Building Reports)



*Fluctuations, au Canada (Terre-Neuve non comprise) du volume de tous les contrats de construction et d'entreprises de logement, exprimées en dollars à valeur non compensée, de 1919 à 1950. (D'après les "Rapports Maclean sur la construction")*

## THE DECISION MAKERS IN RESIDENTIAL BUILDING

Canadian city. We may visualize a new city built each year somewhere in Canada, containing about 400,000 persons, with a density of about 7,000 persons per square mile, which is less than the density of Montreal but about the middle point in density among Canadian cities. It happens that 300,000 per annum is the rate at which our population has been increasing during the past four years; allowing for some destruction of old houses we would find that this important factor in long run demand is probably increasing at about the same pace as the supply of housing. Short run demand is perhaps more influenced by net family formation; this may be roughly calculated and turn out to be only 10 per cent or so below the number of dwelling units built in 1949.

But in comparison with other years this is intensive activity. The fateful aspect of the individual decisions which are embodied in it arises from one of the well-known hard facts of planning: that cost is slight for a plan adopted early and gradually rises to a prohibitive level with delay in the planning relative to the building. Before a railway station is laid down in a city it might cost the same amount to locate it in a number of different places. After it is built the costs of making a change include all of the readjustments which must be undergone by those who have accommodated themselves in various ways to its presence. A large part of the physical matrix within which the city's life proceeds will have been oriented towards the station, including street car lines, hotels and stores.

Detailed information has become available during the last few years on all Canadian investment. All of what is labelled construction, in contrast to equipment, is of interest here; for house-building is not the only portion of the investment program that physically alters the landscape.

A recent survey of intentions carried out by the Dominion Bureau of Statistics and the Economic Research and Development Branch of the Department of Trade and Commerce showed a total of \$2,355 million worth of construction, out of a grand total of investment including equipment of \$3,700 million. This is one field in which statisticians survey not only the past but the future; the figures deal with 1950, and those for 1951 will shortly be available. The total of over \$3½ billions is about  $\frac{1}{2}$  of the total of goods and services produced by Canadians during the year to which it refers. One-third of the \$2,355 million of construction is in housing. The \$769 millions put into new housing in 1949 compares with \$145 million in 1939. By allowing for price changes we can calculate roughly the relative "bulk" of housing in the two years; it turns out that 1949 is  $2\frac{1}{2}$  times 1939.

Information is at hand on the capital expenditure in the construction of manufacturing plants; we disregard for present purposes the \$2 spent on new equipment for each \$1 of new manufacturing building. In Montreal the total for the three years 1948-50 is \$80 million worth of

manufacturing construction, which is more than  $\frac{1}{2}$  of that shown for the country. The number of new houses completed in Montreal in 1949 is over 14,000 or  $\frac{1}{6}$  of the number for the country. In construction of capital equipment for manufactures and also in new houses completed Toronto stands at nearly  $\frac{2}{3}$  the level of Montreal. Many cities show similar relative standing in new manufacturing construction and in house building. Vancouver for example has 6 per cent of the houses completed and 6 per cent of new manufacturing construction in the country.

So much for the way Canadian building money is being used. But who stand at the sources of these funds? For they are the decision makers in our title. The set of national accounts compiled in the Dominion Bureau of Statistics is framed to give both sources and uses. In the year 1949 business saved over \$600 million of undistributed corporation profits, and also provided \$1,300 million in depreciation accounts — ultimately for the replacement of buildings and equipment. The savings of people amounted to nearly \$1 billion, and of government — in the form of surplus — to \$400 million.

A considerable (but unknown) portion of the \$1 billion of personal saving is associated with the \$769 million of gross investment in housing. Though there must be a wide overlap the data do not permit us to say that so many people saved so much money and bought themselves houses with it. The matter is in any case complicated by the fact that in the disposition of their savings people do not make decisions alone. Thus much personal saving is held and invested by insurance companies, and though these act in the interests of the owners of the funds in their custody, their decision-making processes cannot be assumed identical with those of their clients.

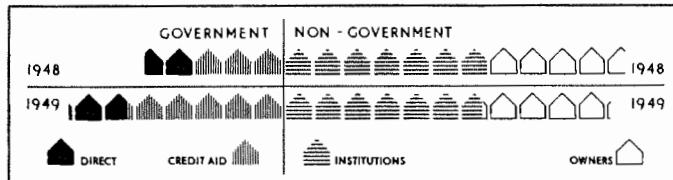
A survey carried out by Central Mortgage and Housing of the nation's mortgages showed gross loans approved in 1949 of \$393 million, an all-time record. About 60 per cent was on new construction, and \$212 million on new *housing* which is between  $\frac{1}{4}$  and  $\frac{1}{3}$  of the total cost of all new houses built last year. Of special interest in a study of decision-making is the fact that life insurance companies were responsible for \$272 million or 70 per cent of total gross mortgage approvals; loan companies for 20 per cent; trust, fire insurance and fraternal societies for about 10 per cent.

C.M.H.C. gives a detailed account of the financing of the 93,000 houses built in 1949. Owners had all the money they needed for 21,000 units; they borrowed from friends in 7,500, and from credit unions and certain other special sources in 12,000 cases. Government-arranged loans applied on 26,000 housing units, of which 19,000 were joint with insurance companies under the terms of the National Housing Act. Conventional institutional loans covered 17,000 units. C.M.H.C. itself built 10,000 units, largely in veterans' projects.

One might speculate as to the difference in the quality of decisions made by custodians of funds and those made by owners. There are cases where the lender acts as a check on the building of a monstrosity that the owner and everyone else would soon regret. The (expressed or unstated) rules by which lenders work are thus of consequence for the surroundings of ourselves and future Canadians. Important as may be the social elements which enter into the decisions on how and when the money is spent, this is not a field in which a public statistical agency can furnish data; so one can only resort to speculation.

In our society everyone makes decisions, but of course they do not do so independently: the market is a patient but firm co-ordinator. The quality of decisions made by business men is evaluated by the market in a completely unequivocal way, on a scale of profits and losses. The fact that the ultimate buyers in the market are people implies that people get what they want. I shall however take it from those better qualified than myself that at any given moment the drawing boards of architects and planners contain designs for communities which in some definable sense are better than those which are now being built. The interest which a sociologist takes in exploring such a hypothesis is not in criticizing the building industry; he assumes rather that builders are craftsmen trying to do their best. They appreciate that the owners will want a community suited to satisfactory living. The lender wants to ensure that every house is saleable, — which can only mean that it is suited to potential owners generally; he will naturally be intolerant of anything that smacks of eccentricity; essentially he

**Principal sources of funds for new dwellings constructed in Canada, 1948 and 1949; those financed entirely from private sources are set apart from those financed wholly or in part with federal government aid. Preliminary indications are that the government-aided portion increased substantially again in 1950. Each symbol represents 5,000 new dwellings completed. (Based on *Mortgage Lending in Canada 1949* by Central Mortgage and Housing Corporation.)**



*Origine principale des fonds affectés à la construction de nouvelles habitations au Canada, en 1948 et 1949. Les habitations dont la construction a été entièrement financée par les particuliers sont distinctes de celles qui l'ont été complètement ou en partie grâce à l'aide du gouvernement fédéral. On prévoit que les constructions exécutées grâce à l'aide du gouvernement s'accroîtront sensiblement encore en 1950. Chaque symbole représente 5,000 nouvelles habitations terminées. (D'après "Mortgage Lending in Canada 1949", publication de la Société centrale d'hypothèques et de logement)*

will consider that the money of which he has custody is safest when he supports the building of houses that he sees owners as wanting, and these can only be in satisfactory communities.

How then can it happen that the three participants in the decision that determines each individual house — the owner, the builder and the lender — all want the best community possible, and yet the resultant creation does not correspond to the specialists' conceptions? A part of the reason for the impasse is that builders and lenders work *not* on what individual people actually want — which they have no way of knowing — but on what they think a person in the relevant income group will want in the future when the house comes up for sale or possible foreclosure. Here perhaps we may have an example of the way in which mental reflections transmit the moving forces of social life. I raise the point merely to indicate that in studying the decision-making process one must give some attention to the pictures in the minds of the actors.

However it is plain that a slow drift in conceptions and preferences of the ultimate buyers does take place, followed by recognition of this drift in the conceptions of what is marketable on the part of the producers. The co-operative process of house-building can result in preferences not changing as fast as architectural and planning ideas; there is a lag. This is further to the obvious lag which occurs because the durability of even badly constructed houses is such that they constitute the *actual* environment for several generations after they have ceased to be the *preferred* environment; when taste has moved on the physical embodiment of the taste of yesterday remains.

But this is not the most important point bearing on the matter. In no situation are the actors aware of all of the conditions which will determine whether their action will attain the goals they aim at. Because of this it invariably happens that the consequences which were intended by the participants are brought about in modified form only, and are always accompanied by other, unintended, consequences. We may think of lender, builder and owner as actors in a play in which all the characters have the best of intentions; but though the play has no villain, yet its outcome is sometimes not a happy one. The fact is that individual decisions made in isolation do interact with one another, when they emerge into the real world. The decisions seem to pertain to houses rather than to communities; but the unintended results of the decisions include vital aspects of the relations of buildings to one another and to service centres, relations which we in the audience see as crucial for living satisfaction.

A model such as that outlined above is an extreme simplification of the facts. Some of the obvious points of which it makes no explicit mention are that the demand for houses and the number of houses built depend on



the level of income, that lenders are as concerned with the characters of borrowers as with physical considerations, that builders have to sell their product if they are to stay in business.

It is clear also that the trio of builder, owner, and lender do not always share the decision. In the case where a speculative builder undertakes the construction, the only choice permitted to the intending buyer is to take the house or leave it, and this applies at least equally to rental housing. Owner-builders need only the concurrence of a lender. Thus the concrete decision-making process has many variants. An additional factor of the last few years is the ability of governments, through section 35 of the National Housing Act, to initiate housing programs; municipal, provincial and national governments are thus involved. In some cases C.M.H.C. itself makes the decision to undertake a housing project.

All this is worth investigating in terms of 1950's sense of responsibility for housing of which this *Review* is itself evidence. Sociologists might study the way in which popular interest comes to be focussed on an issue that previously was below the level of general awareness. Rather little is known of the genesis of such a heightening of common concern, but undoubtedly its existence affects the quality of individual decisions made under its sway. The fact that housing has rather dramatically taken on this character of a public problem is probably related to

the activities of planners both as cause and as effect; it seems to be a noteworthy social phenomenon today.

I have presented statistics of saving and investment, and ask you to think of these as the sum total of thousands of individual decisions. Insofar as they are rapidly fixing the physical environment in which we will be spending our lives their interest for us is acute. One would like to have statistics showing the psychological determinants on which these decisions are made; what factors are seen in the minds of lenders, builders and owners as having a bearing. Lacking statistical information I have suggested three rather general propositions which may be relevant:

- (1) Awareness of housing *need* as a problem to be discussed, catered to and organized for, has emerged relatively recently and is a major social fact of our time; it frames the individual decisions made in this field;
- (2) Decisions here as in other areas are made, not in terms of the facts themselves, but rather in terms of the actors' perceptions of the facts;
- (3) Insofar as the *awareness* of owners and other decision makers does not include the elements which are pertinent to the formation of communities, the unintended consequences of their decisions may turn out to override their conscious plans.

## URBAN MAPPING : AN ELEMENTARY MANUAL

by Humphrey Carver

THE manual entitled 'Urban Mapping' has been published by Central Mortgage & Housing Corporation under the terms of Part V of the National Housing Act. It is offered as a contribution towards the development of systematic techniques in Canadian planning work. The manual is available to planning boards, officials and consultants, on request to the official in each province responsible for community planning affairs. Copies may also be obtained from the Community Planning Association of Canada; distribution of the manual is, however,

reserved for those engaged in planning work and other municipal business.\*

Like other systematic processes, community planning involves three phases of work: first the gathering of information, second analysis and interpretation, and third the projection of proposals for action. Unless information is correct and in usable form it is not possible to draw justifiable conclusions and make valid proposals.

The field of information that may be considered relevant to planning work is very large, since the planner

is concerned with the physical, social and economic characteristics of a community. For this reason the preliminary phases of work may become a very time-consuming and expensive operation. Desirable as it is that all specialists work as a team throughout the process, there are available in Canada at the moment neither the personnel nor the public funds required for that ideal. It may be that valuable work can meanwhile be done by relatively unskilled staff, in readiness for the introduction of the professional planner in the phases of interpretation and planning proposals.

From the mass of data that may be obtained, it is necessary to decide which items of information are essential and how these can be presented in a simple, comparable and intelligible form. The Urban Mapping manual sets a pattern for this procedure. The series of 14 maps may be regarded as a foundation for planning work in any community. The system of standardized symbols, colours and hatching provides a mapping technique that can be applied by a staff without a professional level of skill. The manual specifies the precise colours and other commercially available materials required for making maps, either in colour or in black-and-white.

The system of presentation recommended in the manual has been derived from a study of urban mapping methods used both in the U.S. and under the British planning administration. The technique does not differ essentially from those now used in some of the larger planning offices in Canada. It is hoped that a general acceptance of this system in Canada will lend a consistency to the further development of planning work in this country.

An organized mapping method provides a kind of common language in which the same symbols have the same meaning wherever and whenever they are used. The development of this language is part of the maturing process through which Canadian planning must pass. We are therefore glad to report that this manual has been placed before the provincial officials concerned with community planning and has met with their approval.

In order to explain the application of the recommended mapping system, an actual Canadian community was taken as a sample. This provided a realistic experience

in surveying what may be described as an 'average' municipality and in seeking information from municipal officials and from other government sources. The study preceding the preparation of the manual thus demonstrated that the necessary information is normally available, and can without great difficulty be translated into mapping form. Since the purpose of the manual is simply to demonstrate the use of the system, it was not necessary to prepare sample maps of the whole area of the city; therefore the maps of 'Samplertown' cover only a quadrant of the area. (Parts of two of the 15 maps in the Manual are reproduced herewith at the same scale as in the published work.—Editor)

The design of the mapping system was under the direction of Mr. Peter Oberlander—now Professor of Planning and Design at the University of British Columbia. He was assisted by Miss Blanche Lemco, another Harvard-trained Canadian planner. Mrs. Jean Strange was responsible for the detailed work of preparing the manual for publication. Central Mortgage & Housing Corporation is indebted to a number of experienced planning consultants and officials who gave invaluable advice in the early stages of devising the standard symbols, colours and notations.

It is often said that community planning is both a science and an art. This means that a distinction can be made between those processes of planning which are concerned with observable and material facts and those which require the intuition and creative faculties of the designer. It is true of course that even in the selection of the evidence on which he will base his proposals, a planner must exercise his discretion and judgment. But there will be a greater respect for the place of the planner in local affairs if his working tools and objective information are clearly displayed and understood by all concerned. When this systematic foundation is established it may be easier to release the more imaginative capacities of our Canadian planners. For there is no doubt that community planning will be a sterile affair unless its protagonists can capture the imagination of the people, and can make bold proposals to lift the general level of Canadian townscape to a quality consistent with what are now its best (and regrettably rare) fragments.

\*A STUDY OF URBAN MAPPING consists of 38 pages in a loose-leaf atlas binder 20 inches wide and 16 inches high. Full specifications are given with which to indicate, on suitable base maps, such data as soil qualities and administrative areas in the region; and population distribution, installed services and institutional capacities within the municipality. For those in Canada who are occupied in planning, the Study is available with the compliments of Central Mortgage and Housing Corporation, upon written request to the responsible planning official in the Province of the applicant. To others the Study will be provided upon receipt of \$2.00 in the Community Planning Association of Canada, Ottawa. —Editor

\**A STUDY OF URBAN MAPPING* consiste de 38 pages dans un portefeuille 20 pouces de largeur et 16 pouces de hauteur. Des spécifications claires sont données pour l'obtention des matériaux commerciaux avec lesquels on peut indiquer les qualités du sol et des zones administratives dans la région; la distribution de la population, et des services installés dans la municipalité. Pour ceux au Canada qui sont actifs en matière de l'urbanisme, ce guide peut être obtenu par l'entremise de leurs gouvernements provinciaux avec les compliments de la Société central d'hypothèques et de logement. Pour les autres ce guide peut être obtenu à l'Association canadienne d'Urbanisme . . . le prix \$2.

—N.D.L.R.

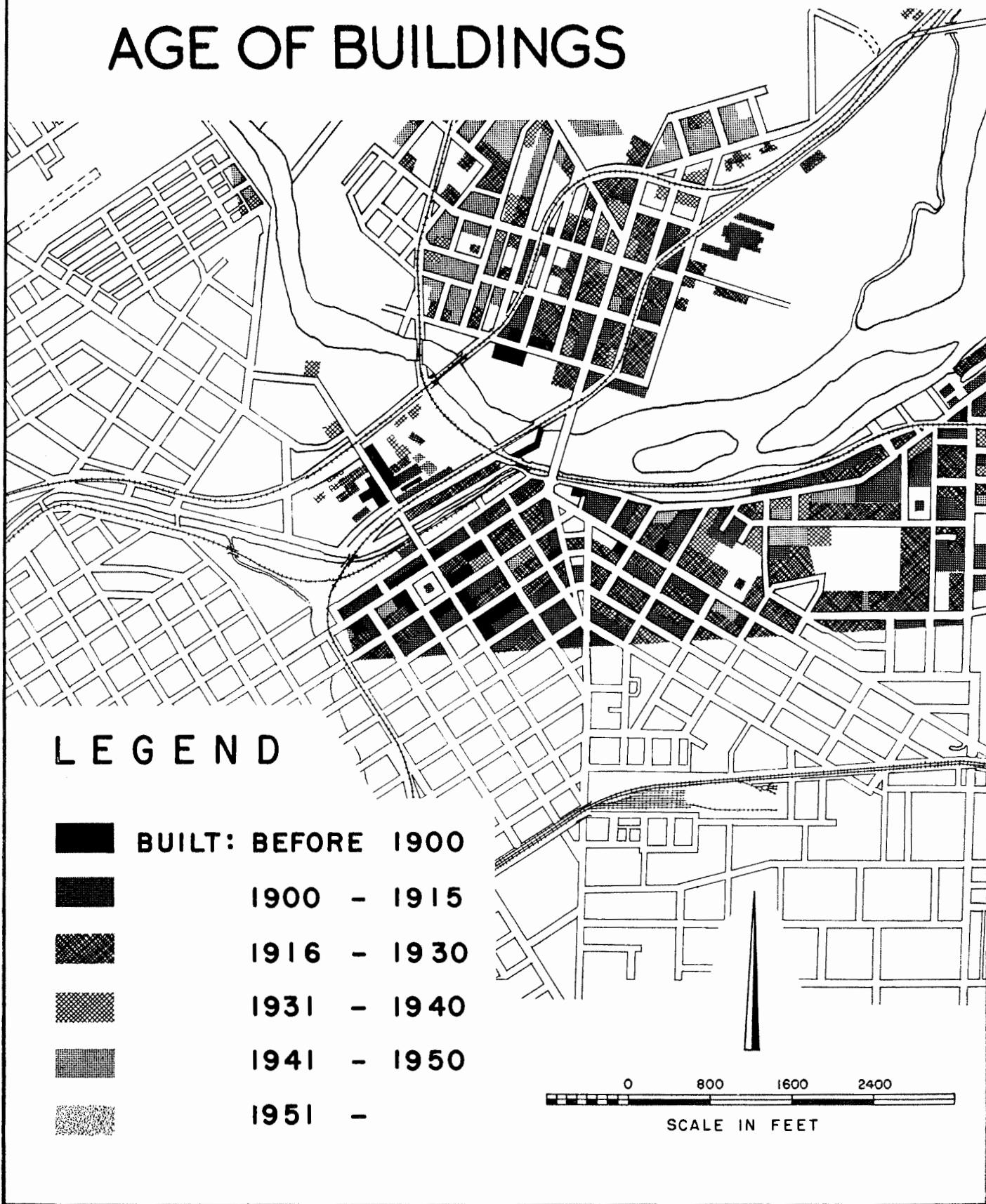
# LAND USE



## LEGEND

[Dotted Pattern]	RESIDENTIAL	[Cross-hatched Pattern]	PRIVATE RECREATIONAL AREA
[Cross-hatched Pattern]	COMMERCIAL	[Dotted Pattern]	INSTITUTIONS IN LARGE GROUNDS
[Solid Black Pattern]	INDUSTRIAL LANDS WITH BUILDINGS	+	HOSPITAL
[White Box]	RAILWAY	S	SCHOOL
I	QUASI-PUBLIC INSTITUTION	†	CHURCH
[Solid Black Box]	PUBLIC BUILDING	—	SURFACE WATER
[Hatched Pattern]	AGRICULTURE	▲	LOCK
[Cross-hatched Pattern]	OPEN SPACE, UNDEVELOPED	—	DAM
[White Box]	VACANT LAND	⚒	MINERAL WORKINGS
[Solid Black Box]	PARK	■	WASTE DISPOSAL

# AGE OF BUILDINGS



*L'auteur a suivi des cours post-scolaires d'urbanisme aux Universités de Toronto et McGill. Nous publions dans ce numéro le premier d'une série de deux articles au cours desquels il étudie les perspectives économiques que présentent les modifications radicales des vieux centres urbains du pays. Dans le premier article, il s'inspire des écrivains américains Haig, Mumford et Homer Hoyt pour définir ce qu'est le taudis; et il met en regard le fruit de leurs recherches et ce qui existe dans nos villes, surtout à Montréal. L'auteur considère ensuite le fardeau financier que constituent les taudis pour les administrations municipales et conclut que si elles veulent ne pas devenir impuissantes au point de vue financier, il faudra opérer des modifications radicales dans les régions sous-centrales. Dans le second article, lequel paraîtra dans la prochaine livraison, l'auteur s'arrête aux ressources économiques pouvant permettre d'entreprendre de telles modifications au Canada.*

## ECONOMIC PROBLEMS OF URBAN REDEVELOPMENT

### A: CAUSES AND COST OF URBAN BLIGHT IN CANADA

by Leonard Gertler

THE economic problems with which this paper is preoccupied are those which arise out of any effort to redevelop on a large scale the decayed areas of our cities. First and foremost, then, we are concerned with the difficulties of acquiring built-up urban land; and secondly, with the related problem of supplying dwellings to families displaced by redevelopment.

A blighted area may be defined in a general way as one which has become a social and economic liability to the community. A slum is an area in an advanced stage of blight. Deterioration of buildings and deterioration of family and social life are earmarks of both<sup>1</sup>. The extent to which these conditions exist in Canada indicates the significance of our problem. In Saint John, New Brunswick, 27% of the people live in slums and blighted areas. In Quebec City 45% and in Montreal 27% of the dwellings are substandard<sup>2</sup>. Toronto reports that 50% of the residential area is composed of declining neighbourhoods and 2% are completely blighted; Windsor, that 66% are declining and 14% blighted; and Regina that 45% are in danger of deteriorating and 42% declining<sup>3</sup>. Similar figures could be cited for other Canadian cities. The available evidence seems fully to substantiate the statement of the Dominion Government's com-

mittee on *Housing and Community Planning* to the effect that "great and ever-widening areas around the centres and sub-centres of Canadian cities have become blighted".

To grasp the full dimensions of the problem before us it is necessary to know its origins. Only in this way can one accurately prescribe for the affliction. A search for origins leads to a study of the process of urban growth.

#### HAIG: FUNDAMENTAL FORCES PROMOTE ORDER

There was a time not so long ago when leading students of the North American type of city believed there was an inherent order in the land use pattern created by the unhampered interplay of economic forces. Typical of these were Dr. Robert Murray Haig and Dr. R. C. McCrea, Columbia University economists. In their pioneer study for the *Regional Survey of New York and its Environs* they affirmed that the competitive bidding of different economic activities for their optimum sites produced the ideal urban layout<sup>4</sup>. Transportation costs in money and time (including those of labour and information) were the predominant factors governing the strength of individual bids for central sites.

<sup>1</sup>For definitions—S. E. Sanders and A. J. Rabuck: *New City Patterns*. Reinhold Publishing Corporation, New York, 1946, p. 6.

<sup>2</sup>A substandard dwelling as defined by the Housing Census of 1941, is one in need of external repairs and/or lacking or with shared use of flush toilets and bathing facilities. *Housing and Community Planning*, (March 24, 1944). Advisory Committee on Reconstruction. King's Printer, Ottawa, 1946, p. 105.

<sup>3</sup>*Master Plan of the Municipality of the City and County of Saint John, N.B.*, Saint John Town Planning Commission, 1946, p. 24, 33.

*Third Annual Report of the City Planning Board*, Toronto, December 30, 1944, p. 18-19.

*Windsor's Master Plan*. Town Planning Consultants, Toronto, 1947, p. 46.

*Community Planning in Canada*: Regina, Saskatchewan. Community Planning Association of Canada, 1948, p. 32.

<sup>4</sup>Robert Murray Haig, Ph.D. and R. C. McCrea, Ph.D.: *Major Economic Factors in Metropolitan Growth and Arrangement*, Regional Survey of New York and its Environs, Vol. I. New York, 1927.

On the basis of their study of the land use tendencies in the New York area the authors projected an ideal layout. Starting from the centre, the correct succession of land uses in any given sector of the urban circle is as follows: retail, financial and professional, wholesale, industrial, domestic. There will be a certain amount of intermingling of these uses—some closer in, others farther out—because individual factories, stores, etc. exhibit varying tenacities to cling to central sites. But, generally, the above is the proper “order of precedence” of uses, a measure of the competitive power for urban sites of the different activities and a reliable guide to urban land values. Why is it also the ideal pattern? Because, they infer, it is what the people want. No department store could maintain its expensive central site without the patronage of a large number of people.

While thus maintaining that the forces of competition always tend towards the ideal arrangement of uses, the authors were compelled to take note of certain “distorting and retarding” factors which prevent its full realization. Amongst the most important of these is the obsolete building. They remark, with some astonishment, that “an amazingly large part” of the industry of the metropolis is housed in old buildings paying a much lower rent than the value of the land would warrant. Thus the location of such factories is no indication of their true competitive power for urban sites and land values are not reliable guides to land uses. The extent to which this condition obtains, then determines the degree of certainty with which Haig's hypothesis might be applied. It is a fundamental distortion. Haig's assumptions, however, leave no room for any chronic condition of obsolescence in any one area of the city. The use of the obsolete building is always temporary and the direction of change is upward to a newer and higher use<sup>5</sup>. But what happens if the invasion of the new use is very long in coming, or never comes at all? Would there not be a tendency for repairs and renewals to be neglected, and, as a consequence, for a progressive deterioration ending in blight to set in? That is precisely what Lewis Mumford writing a decade later asserted.

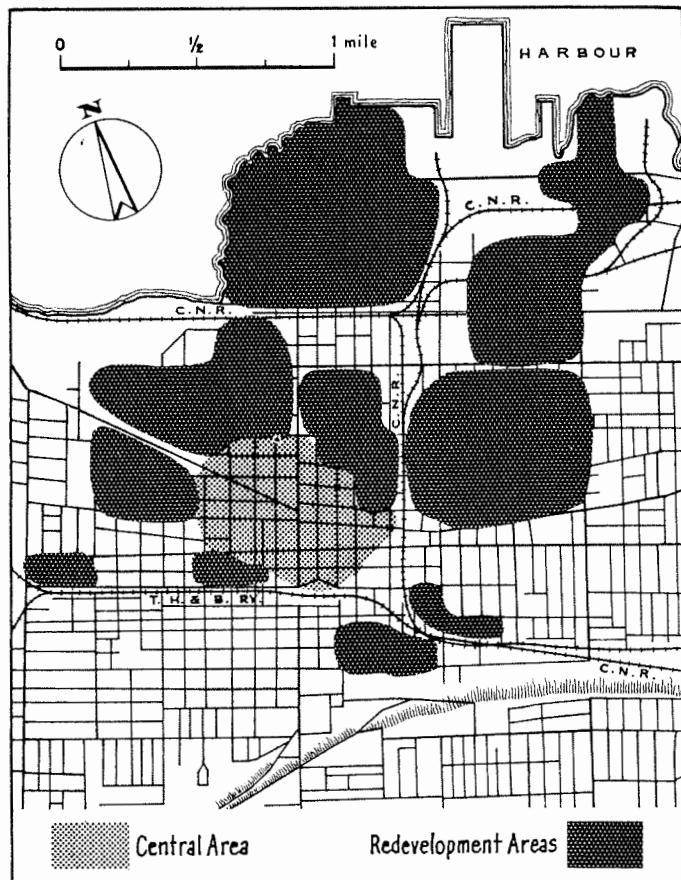
#### MUMFORD: INDICTMENT OF THE MODERN CITY

The major by-products of city growth, according to Mumford, have been congestion and functional disorder<sup>6</sup>. Both of these, so far as the North American city is concerned, have their roots deep in the conditions of the 19th century. The “laissez-faire” economics which were predominant left the land wide open for exploitation by private individuals seeking profit. Without public restraint the land could be developed beyond its capacity; without public control land use patterns re-

<sup>5</sup>“Higher use” here means the use which makes possible the maximum private net income.

<sup>6</sup>Lewis Mumford: *The Culture of Cities*. Harcourt, Brace and Company, New York, 1938.

HAMILTON: Région centrale et zones insalubres. (D'après “Base Material for Planning” Comité municipal d'urbanisme d'Hamilton, 1945.)



HAMILTON: Central Area and Blighted Areas. (From *Base Material for Planning* City Planning Committee of Hamilton, 1945.)

flected the often conflicting decisions of countless individuals. The non-functional, geometric city plan arising in 17th century Europe in response to the needs of military traffic in flourishing mercantilist states, now became universal. Being made up of uniformly shaped lots it was peculiarly suited to the requirements of the real estate speculator interested in a quick and easy sale.

These tendencies towards overcrowding and confusion were strengthened by certain technical and economic aspects of capitalist production. To maximize the potentialities of steam, which worked most efficiently when the plant was no more than a quarter of a mile from the power centre, the greatest possible number of productive units were concentrated within a given area. Concentration of industry brought concentration of population; concentration of population provided a pool of cheap labor which could be employed or released with the rise and fall of economic activity; capitalist industry with this basic necessity satisfied, flourished and

## ECONOMIC PROBLEMS OF URBAN REDEVELOPMENT

*L'expansion verticale de la région centrale est de nature à interrompre la croissance dans l'autre sens*



Upward growth of the central area is a factor in arresting its horizontal extension

Photos L. Gertler

spread its familiar pattern. Thus there was an intensifying bias towards bigness and agglomeration.

Congestion and functional disorder, then, are the fruits of urban growth. From the first of these comes the physical deterioration of buildings and neighbourhoods; from the second, the deliberate neglect of "repairs and renewals" while owners await the conversion of their land to a higher function and a more intense use; and from both comes the ultimate decline of population and values. Relatively high land values, the automobile, the constriction of space, and the search for a more beautiful and more hygienic environment—these factors, singly and together, promote a flight *en masse* from the slums.

### HOYT: FUNDAMENTAL FORCES PROMOTE DISORDER

Mumford has deepened our understanding of urban problems by his convincing demonstration that the conditions which produce slums and blighted areas are deeply rooted in the process of urban growth. But he leaves a number of important questions unanswered. How can we account for the vigor and economic health of North American cities for some seventy-five to a hundred years before World War I? If it is true that our cities were once healthy, why has decay spread in the last thirty years? These key questions have commanded the attention of Dr. Homer Hoyt, former Principal Housing Economist of the Federal Housing Administration<sup>7</sup>.

<sup>7</sup>Homer Hoyt: *The Structure and Growth of Residential Neighborhoods in American Cities*. Federal Housing Administration, Washington, D.C., 1939.

Homer Hoyt, "Urban Decentralization" *Journal of Land and Public Utility Economics*. August, 1940.

The starting point of Hoyt's analysis is the concentric circle theory of the distribution of land uses, first developed by a group of University of Chicago sociologists<sup>8</sup>. The theory of urban growth with which this theory is associated assumes, as did Haig and McCrea, that there is a succession of land uses, expanding out from Zone 1, the central high value area, and encroaching upon the zones of lower value and less intense use. It follows from this assumption that no part of a growing city can ever be in a condition of permanent decay.

While Hoyt admits the validity of the concentric circle theory before the first World War, he believes that it does not take into account the subsequent reversal in the direction of growth of the dynamic land uses. By the thirties decentralization had emerged as the predominant fact of urban growth. It was associated with five major shifts in use.

In the first place, there was a relative decline in the lateral as opposed to vertical expansion in the central business district<sup>9</sup>, and then an absolute decline in the rate of expansion of the district as a whole. Vertical expansion was stimulated by the introduction of the steel-frame skyscraper and the invention of the steam and electric elevator in the eighties. Hoyt is able to detect two kinds of dispersions of the functions of the central business section—"a string-like" development of stores extending out on one or more of the main thoroughfares radiating from the business centre, and a decentralization into satellite business centres. The functions of entertainment, shopping, and finance, which were once concentrated in a Loop . . . were diffused and scattered by the chain store, the motion picture theatre, the radio, and the outlying bank which furnished the same facilities at widely scattered neighbourhood centres.

Secondly, the use of land for wholesaling, ceased to expand because of (a) the increase in direct purchases by retailers from the factories (intensified by quick deliveries and changing styles) and (b) the construction of large wholesale buildings like the Merchandise Mart in Chicago which contracted the amount of land necessary for the remaining wholesale trade.

Thirdly, there is a strong and persistent tendency for factories, particularly of the heavy type, to leave the centre and locate along outer belt lines (water or rail)

<sup>8</sup>Milla Aissa Alihan: *Social Ecology*. Columbia University Press, New York, 1938, p. 208-219.

<sup>9</sup>In what must have been one of the earliest Canadian town planning documents, the Calgary report of 1914, there is an interesting anticipation of the commercial land use tendencies which were to become predominant in the succeeding generation. The author writes: In "the business centre there is . . . a marked tendency to congestion and the creation of abnormally high buildings, which we are very pleased to find your Council are determined shall proceed no further, and that the height of buildings shall be limited to ten stories or thereabouts." T. H. Mawson & Sons: *The City of Calgary, Past, Present and Future*. London, 1914, p. 8.

or in specialized industrial districts. Basic reasons: (a) the automobile truck, the belt-line railroad and the freight interchange points on the outskirts of cities make transportation facilities in the outlying areas superior to those in the heart of the city; (b) land is cheaper, less heavily taxed and more abundant in the outlying areas; (c) the mass production and widespread use of the automobile has severed the short link between place of residence and place of work<sup>10</sup>.

Fourthly, as a result of a restrictive immigration policy the zone of workingmen's homes ceased to be replenished by immigrants from Europe.

Fifthly, the area surrounding the belt of workingmen's homes, the better grade residential and commuters zones, were in turn becoming invaded by persons fleeing from the deteriorated areas.

The effects of the above land use movements are not difficult to apprehend. A contraction in the centre, the flight of population from that area, and the expansion of housing and industry on the fringe—the combined impact of all these forces produces a big gap in the urban structure, an area of intensifying and expanding deterioration which waits in vain for a "higher and better use". Landlords receiving low rentals neglect repairs; and builders scrupulously avoid such areas because the value of a new home in such surroundings may be less than its reproduction cost.

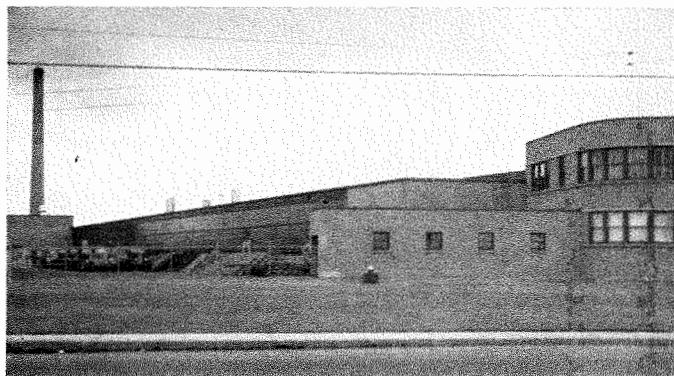
#### HOYT'S THEORY PUT TO THE TEST IN MONTREAL

Hoyt's analysis leads unequivocally to the assertion that blight and slums are spreading, and the problems they create becoming more acute. While the general fact of urban deterioration in Canada is incontestable, it remains to be proved that the basic forces operating in urban growth are, as Hoyt suggests, automatically and continually extending the area of decay. The only way in which this can be conclusively proved or disproved is by a careful examination of the history of land use in a representative group of Canadian cities. As a small step in that direction this study will submit the theory to the test of experience in Montreal<sup>11</sup>. How far do Hoyt's five substitutes for central area expansion go toward accounting for blighted areas in our largest city?

There has been one major lateral shift of the central business district in Montreal—from Notre Dame and St. James Street on the flat land adjacent to the harbour to the heights of St. Catherine Street. The shift, which

<sup>10</sup>A British study, published in 1939, reports that the Census of Production does not "show a simultaneous trend of industry outwards from many of the main centres." It goes on to remark, however, that "improved transport facilities and the ease of personal contacts by telephone are stimulating industrialists to move from old premises within cities to new premises, either on the fringe or in newer neighbouring towns." *Report on the Location of Industry in Great Britain—Political and Economic Planning*, London, 1939, p. 46.

*La dissémination des usines dans les banlieues retarde l'expansion des régions centrales*



**Far-flung suburban factories are a factor in retarding expansion of central districts**

began in 1890 with the movement of Morgan's from Victoria Square to Phillips Square, assumed the nature of a division of functions. Retail shopping, led by the great department stores, concentrated on St. Catherine Street; the national banks, insurance companies, office buildings and newspapers remained in the Old City. Tall buildings in these areas are indicative of vertical expansion. Lateral expansion in recent years has not been pronounced (see map and photo).

A glance at a land use map of Montreal<sup>12</sup> shows very clearly that the retail functions have been dispersed, in the manner suggested by Hoyt, that is, along thoroughfares stemming from the main business centre, and into "autonomous" business centres serving widely scattered neighbourhoods.

The facts with regard to the wholesaling function in Montreal are not clear-cut. In support of Hoyt's thesis is the fact that in Montreal's leading industry, clothing manufacture, direct purchase by the retailer from the manufacturer is the rule. The same is not true for textiles, the fifth ranking industry, which has its wholesale shops concentrated on the edge of the first class commercial district, on Phillips Square and on St. Lawrence Main, south of Pine Avenue. The great majority of wholesale 'houses', however, such as fruit and groceries, remain where they always have been, in the Old City, clustered together near the harbour area.

Montreal's industrial pattern is a perfect model of the distribution discovered by Hoyt. Scattered throughout

<sup>11</sup>Major sources used here are:

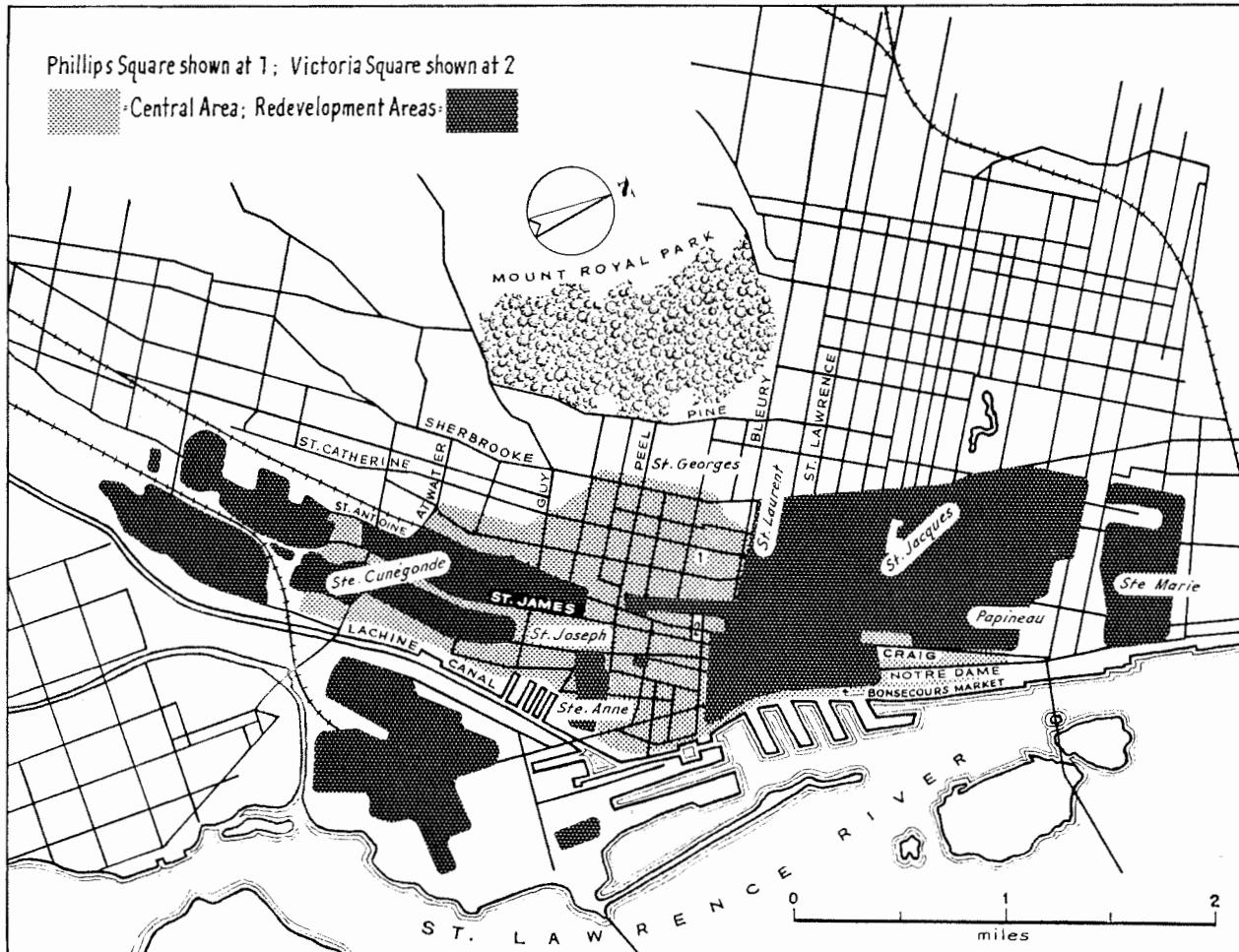
R. Blanchard: *Montréal, Esquisse de Géographie Urbaine*, Etudes Canadiennes, Troisième Série. Montréal, 1948.

John Irwin Cooper: *Montreal. The Story of Three Hundred Years*. L'Imprimerie de Lamirande, Montréal, 1942.

*Planning For Montreal*. Master Plan, Preliminary Report. Department of City Planning, November, 1944.

<sup>12</sup>Ibid—*Planning for Montreal*—p. 38.

## ECONOMIC PROBLEMS OF URBAN REDEVELOPMENT



**MONTREAL:** Central Area and related Redevelopment Areas. (Based on *Planning for Montreal* City Planning Dept. 1944.)

the five most central wards are the relatively small establishments of the clothing industry. The thickest concentration, however, is along the navigable waterways, extending in a 17 mile stretch of heavy industry from the western end of the Lachine Canal, along canal and river, to the outermost limits of the built-up area in Montreal East. The third industrial area of importance follows the course of the railways, paralleling the waterways, circling the city, and extending into the northwestern suburbs. Factories in the latter section, located mainly on the periphery and built up within the last decade, are of the type which benefit from the economies of continuous floor space (see photo).

A first look at a map of population densities in Montreal gives the impression that the zone of transition is not losing population<sup>13</sup>. Densities in such areas as St. Laurent and St. Jacques, St. Joseph, Papineau and Ste. Marie are still high compared with the rest of the city, ranging from 100 to 400 per hectare (2.7 acres). But a more careful study of conditions in this zone tells another

**MONTREAL:** Région centrale et zones de modification voisines. (D'après "Planning for Montreal" Service d'urbanisme 1944.)

story. Blight is widespread<sup>14</sup>; there is the paradox of vacant lots in the midst of congestion; and the population is moving out. French-speaking residents of the most northerly of the above-mentioned wards, Papineau and Ste. Marie, have skipped over a large area of the old city to settle in the northern wards of Rosemont and Villeray; they have been replaced only partially by Polish and Italian immigrants. In St. Joseph and neighbouring Ste. Anne and Ste. Cunegonde, the population has been at a standstill since 1941, in spite of increased immigration. These facts are not incompatible with the still relatively high population densities in this transition zone. It is the trend of land use that is important.

The flight from deteriorating areas and the search for a better environment, so characteristic of American cities, is a movement with a long history in Montreal. Each

<sup>13</sup>Op. cit.—Blanchard—p. 155.

<sup>14</sup>A map of proposed redevelopment areas reveals that most of them are to be located in this zone. —op. cit.—*Planning for Montreal*—p. 42.

decisive improvement in the means of communication or transportation, beginning with the telephone in 1879, has facilitated the march to the periphery. In the decade following the introduction of the electric tramway in 1892, for example, the population of Westmount trebled, rising from 3,000 to 9,000. Between 1931 and 1941 the city area experienced a population increase of 10.3% compared with 15.8% for the fringe area. The trend persists today. While the population in Montreal proper increased by 15.5% between 1941 and 1946, that of the suburban municipalities increased by 22.7%.

The overwhelming fact emerging from the above survey is the decentralization of commercial, industrial and residential uses. It is a condition which lends weight to Hoyt's assertions. Similar tendencies appear in Halifax, Saint John, Quebec, Ottawa, Toronto, Hamilton, Windsor, Winnipeg and Vancouver<sup>15</sup>. It is not suggested by this that urban decentralization when it is controlled and accompanied by the redevelopment of decayed areas may not be a sign of health. It is asserted, however, that a major symptom of progressively intensifying blight is evident in at least ten Canadian cities.

#### BURDEN OF BLIGHT: DESTRUCTION OF REVENUES

The seriousness of the spread of blight in Canadian cities may be understood by considering some of its economic effects. It is generally asserted that values in blighted areas are high<sup>16</sup>. It is no less frequently asserted that blighted areas are losing population and value<sup>17</sup>. Both of these assertions are correct. Any apparent contradiction between them is dissolved when one considers that blight is a process which may be more or less advanced in different areas and different cities. The essential point is that values in blighted areas move downwards from a *high level* because such areas were at one time genuine zones of transition, moving from 'lower' to 'higher' uses. Since, in the long term, land value is based on the capitalization of net income, any changes in the prospective use of urban land will affect its value<sup>18</sup>. In blighted areas, as Hoyt has demonstrated, there has been "a reversal in the fundamental forces that had enabled land to be converted from lower to higher and better uses". The decline in values is a product of this change in urban land uses.

Let us look at the figures. The accompanying graph indicates the trend of assessed values over the last twenty-

<sup>15</sup>Op. cit.—*Housing and Community Planning*—p. 89.

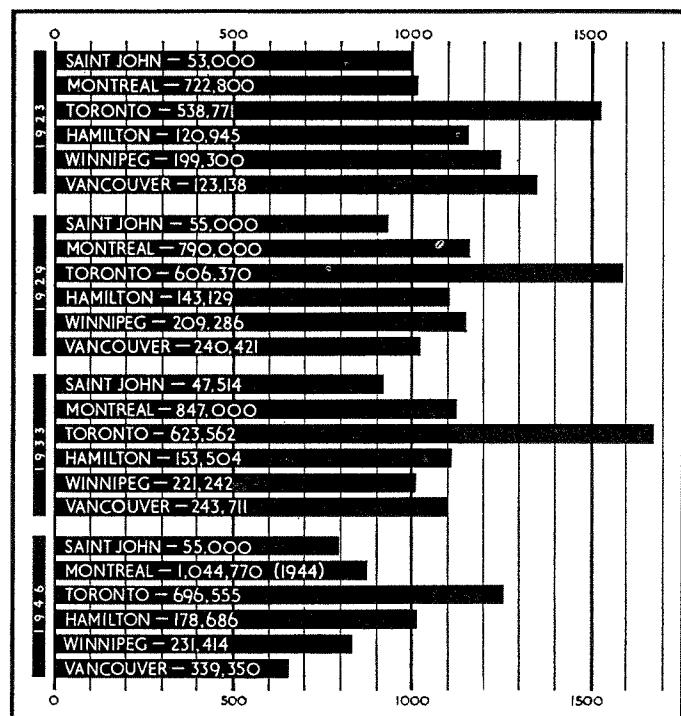
<sup>16</sup>Ibid—p. 164, also Henry S. Churchill: *The City Is the People*. Reynal and Hitchcock, New York, 1945, p. 96, 97.

<sup>17</sup>*Public Land Acquisition*, Part II: Urban Lands. Feb. 1941. National Resources Planning Board, Washington, D.C., p. 2. Mabel Walker: *Urban Blight and Slums*. Harvard University Press, 1938, p. 36.

<sup>18</sup>A. M. Weimer and Homer Hoyt: *Principles of Urban Real Estate*. The Ronald Press Company, New York, 1948, pp. 8-20, 206-212.

Roland R. Renne: *Land Economics*, Harper & Brothers, 1947, p. 523-529.

**VALEUR PAR HABITANT des propriétés immobilières imposables exprimée en dollars à valeur non compensée, dans six villes du Canada au cours du dernier quart de siècle. (D'après "Financial Statistics of Canadian Governments", 1924-1947.)**



**PER CAPITA VALUE OF TAXABLE REAL PROPERTY** in dollars of unadjusted value, for six selected Canadian cities through past quarter-century. (Based on *Financial Statistics of Canadian Governments* Citizens' Research Institute of Canada, 1924-47.)

five years for six major Canadian cities—in all of which at least one-quarter and in some as much as a third or a half of residential houses are substandard. The fall in per capita values in the six cities between 1923 and 1946 (1944 for Montreal) were in order of their appearance on the graph, 19.8%, 13.1%, 17.3%, 12.07%, 32.8% and 50.8%. That the fall in values is something more than a cyclical phenomenon is shown by the fact that in 1946 (1944 for Montreal) per capita values were still below the level prevailing at the depth of the depression in 1933. An absolute decline in the level of assessed values is indicated.

To place the fact of declining values against the fact of local dependence on revenues from the real property tax, is to expose a crucial urban problem. By eating away at the tax base of local government, blight strikes the urban organism hard and fundamentally.

The revenue side of the municipal balance sheet is weakened further by the high incidence of tax delinquency in blighted areas. Tax delinquency is endemic to such areas because it stems basically from the growing

## ECONOMIC PROBLEMS OF URBAN REDEVELOPMENT

gap between the use value of such land, the income it earns from its present use, and the generally high tax assessments which are related to some fictional future use. The accompanying table relates the indices of tax delinquency to percentages of substandard dwellings in ten Canadian cities. Assuming that on economic grounds, the country can be divided into five regions, the cities with the greatest and least amount of bad housing, proportionately speaking, are in each region compared with respect to the delinquency in each.

**TABLE I—PERCENTAGE OF SUBSTANDARD DWELLINGS 1941, AND PERCENTAGE OF TAX LEVY UNPAID, 1943 and 1933, Ten Canadian Cities with Population over 30,000**

Cities	% Substandard Dwellings, 1941	% of Levy Unpaid 1943	% of Levy Unpaid 1933
<i>Maritimes</i>			
Saint John, N.B.	46%	14.6%	27.8%
Halifax, N.S.	43%	13.0%	24.6%
<i>Quebec</i>			
Hull	67%	22.0%	32.2%*
Verdun	11%	8.6%	36.6%
<i>Ontario</i>			
Sudbury	57%	11.9%	43.8%
Ottawa	25%	3.3%	13.1%
<i>Prairies</i>			
Saskatoon	51%	13.4%	43.7%
Winnipeg	36%	8.7%	34.4%
<i>British Columbia</i>			
Vancouver	27%	6.0%	29.1%
Victoria	26%	7.3%	21.6%

Sources: Op. cit.—*Housing and Community Planning Committee on Reconstruction*—p. 105.

Op. cit.—*Financial Statistics, Canadian Governments 1934, 1944*—pp. 8, 8a, 5, 2.

\*April 30, 1934.

In 1943, according to the statistics, cities in four of the five areas all conformed to the expected pattern—the higher the percentage of substandard dwellings, the higher the tax delinquency. The figures for 1933, in all cases substantially higher, reveal the manner in which general economic depression aggravates the financial problems of municipalities. Because there are other important causes of tax delinquency, such as premature speculative subdividing of farmland<sup>19</sup>, the material in the table should be regarded as merely suggestive and not in any way conclusive.

### INCREASE OF COSTS

Blighted areas work havoc with the cost side of the balance sheet as well. The disproportionate costs of

<sup>19</sup>Background for Planning Greater Winnipeg. Metropolitan Planning Committee and Winnipeg Planning Commission, p. 68, 69.

blighted districts in a representative group of American cities are concisely demonstrated in the following relationships:

### ALTHOUGH SLUMS AND BLIGHTED DISTRICTS COMprise ABOUT 20% OF THE METROPOLITAN RESIDENTIAL AREAS THEY ACCOUNT FOR:

- 33% of the Population
- 45% of the Major Crimes
- 55% of the Juvenile Delinquency
- 50% of the Disease
- 45% of the City Service Costs
- 6% of the Real Estate Tax Revenues<sup>20</sup>

These relationships are just as true for Canada. Data available for such major cities as Saint John, N.B., Montreal, Ottawa, Toronto, Hamilton, Winnipeg and Vancouver indicate the same underlying conditions.<sup>21</sup>

### URBAN REDEVELOPMENT AN URGENT TASK

The combined effect of falling revenues and increasing costs make blighted areas typically "deficit areas". A recent Vancouver report, for example, reveals that while the blighted Strathcona area yields \$150,000 a year in tax revenue, it costs the city over \$298,000 or almost twice as much<sup>22</sup>. The impact of such a deficit may be far-reaching. It causes a heavy financial burden to be shifted to the more prosperous parts of the city. But as the burden becomes more onerous, the capacity of the community is likely to be undermined by the harmful effect of spreading blight on taxable values. The result: higher tax rates, and beyond that, mounting debts, and finally impasse and financial paralysis.

A consideration of only the economic effects of blight demonstrates that its elimination is necessary for the general well-being of the urban community. Thus redevelopment deserves to be placed in the front rank of Canadian urban objectives.

**to be continued**

<sup>20</sup>Op. cit.—Sanders and Rabuck.

<sup>21</sup>Op. cit.—Saint John, Master Plan—p. 31.

*First Report As to a Post-War Program of Housing for Low Wage Earners*.—Committee on Housing, City Planning Department, Montreal, April 1942—p. 1.

*A Brief on Objectives for the Year 1948-49*. Research Committee, Advisory Council to the Ottawa Recreation Commission, Feb. 1948—p. 3.

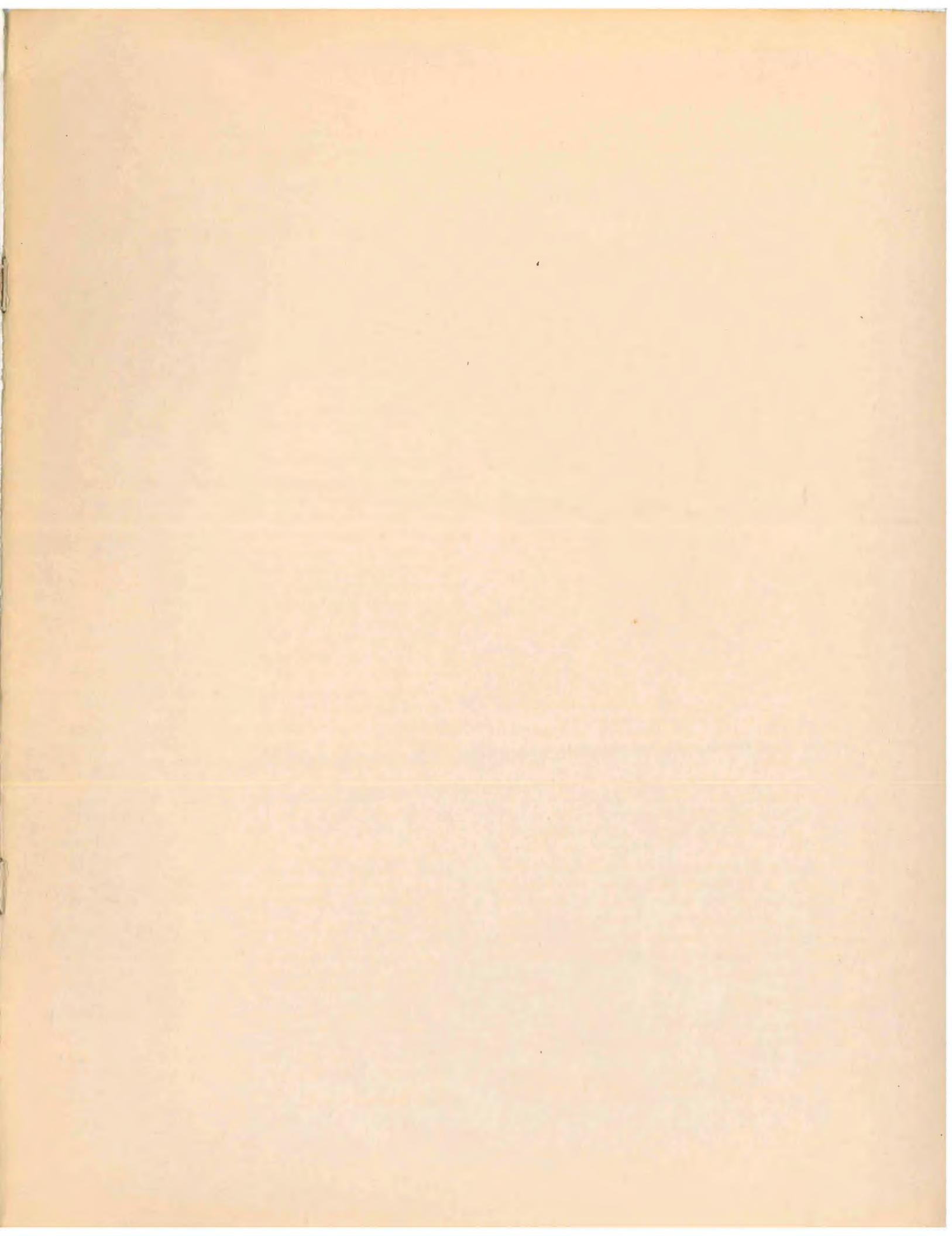
*Housing Conditions in Toronto*. Report of the Lieutenant Governor's Committee, 1934—p. 41, 43, 45.

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<sup>22</sup>Ibid.—Vancouver—p. 4.



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